





Australian Government

Department of the Environment and Energy

## CONSOLIDATED APPROVAL NOTICE

### Montara 4, 5 and 6 Oil Production Wells and Gas Re-injection Well, Timor Sea (EPBC 2002/755)

The attached notice (Attachment A) is provided to consolidate the approval conditions for the above project, approved on 3 September 2003. The approval conditions were subject to variation at various times during the post approval phase. These decisions are publicly available on the Department's website at <http://epbcnotices.environment.gov.au/referralslist/>.

The publication of this notice does not alter the dates of: effect for the approval; the variations to conditions; the expiry date of the approval; or any other dates mentioned in conditions. The consolidated approval notice is for ease of reference only.

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**Name and position**

A handwritten signature in blue ink, appearing to read 'G. Manning'.

Greg Manning  
Assistant Secretary  
Assessments (WA, SA, NT) & Post Approvals Branch

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**Date of Consolidated  
Approval Notice**

12 June 2018

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**Montara 4, 5 and 6 Oil Production Wells and Gas Re-injection Well, Timor Sea  
(EPBC 2002/755)**

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

**Proposed action**

<b>person to whom the approval is granted</b>	PTTEP Australasia (Ashmore Cartier) Pty Ltd (formerly Newfield Australia (Ashmore Cartier) Pty Ltd)
<b>proponent's ABN</b>	27 004 210 164
<b>proposed action</b>	To drill and operate Montara 4, Montara 5 and Montara 6 Wells for the purpose of oil production and to re-complete and operate Montara 3 for use as a gas re-injection well in Permit Area AC/RL3, in the Timor Sea approximately 200 km from the coast of Western Australia [See EPBC Act referral (EPBC 2002/755)].

**Approval**

Controlling Provision	Decision
Commonwealth marine areas (sections 23 & 24A)	Approved

**conditions of approval**

This **approval** is subject to the conditions specified below.

**expiry date of approval**

This approval has effect until 1 September 2028.

**Decision-maker**

<b>name and position</b>	Gerard Patrick Early First Assistant Secretary Approvals and Wildlife Division
<b>signature</b>	<b>SIGNED</b>
<b>date of decision</b>	3 September 2003

## Conditions attached to the approval

1. The person taking the action must submit for the **Minister's** approval, an Oil Spill Contingency Plan (OSCP) that demonstrates the response preparedness of the person taking the action for any spills, including hydrocarbons from offshore wells and infrastructure, pipelines, construction and operation vessels. This must include the capacity to respond to a spill and mitigate the environmental impacts on the Commonwealth marine area and species listed as threatened or migratory under the EPBC Act. The OSCP must include, but is not limited to:
  - a) identification of sensitive areas, species or habitats that may be impacted by a potential spill, as determined by site-specific modelling of worst case scenario spills;
  - b) specific response measures for those sensitive areas, species or habitats and prioritisation of those areas during a spill response, including a **net environmental benefit analysis** of the response options;
  - c) a description of resources available for use in containing and minimising impacts in the event of a spill and arrangements for accessing them;
  - d) a demonstrated capacity to respond to a spill at the site and measures that can feasibly be applied within the first 48 hours of a spill occurring;
  - e) training of staff in spill response measures and identifying roles and responsibilities of personnel during a spill response;
  - f) procedures for reporting spill incidents within 48 hours of a spill occurring; and
  - g) a demonstrated procedure or a plan for testing, maintenance and review of the OSCP.

The OSCP must be submitted and approved by the **Minister** prior to the **recommencement of operations**, or as otherwise agreed to in writing by the **Minister**. The person taking the action must not **recommence the operations** unless the **Minister** has approved the OSCP. The approved OSCP must be implemented.

2. The person taking the action must submit for the **Minister's** approval a Decommissioning Plan at least one (1) year prior to commencement of decommissioning of any components of the floating production, storage and offtake vessel, subsea wells, flowlines, or any associated infrastructure. The Decommissioning Plan must address the removal of all structures and components above the sea floor. The person taking the action must not commence decommissioning until the Decommissioning Plan has been approved by the **Minister**. The approved Decommissioning Plan must be implemented.
3. The person taking the action must monitor produced formation water in accordance with a **NOPSEMA** accepted **Environment Plan** for the activity, including aspects of quality, quantity and effects on the receiving environment.

Note: Condition 4, 5 and 6 were revoked on the date of this consolidated notice.

7. The person taking the action must submit for the **Minister's** approval, an Operational and Scientific Monitoring Program (OSMP) that will be implemented in the event of a spill to determine the potential extent and ecosystem consequences of such a spill, including, but not limited to:



- a) triggers for the initiation and termination of the OSMP, including, but not limited to, spill volume, composition, extent, duration and detection of impacts;
- b) a description of the studies that will be undertaken to determine the operational response, potential extent of impacts, ecosystem consequences and potential environmental reparations required as a result of the spill;
- c) inclusion of sufficient baseline information on the biota and the environment that may be impacted by a potential spill, to enable an assessment of the impacts of such a spill;
- d) a strategy to implement the scientific monitoring plan, including timelines for delivery of results and mechanisms for the timely peer review of studies; and
- e) provision for periodic review of the program.

The OSMP must be submitted and approved by the **Minister** within three (3) months following the **recommencement of operations**, or as otherwise agreed to in writing by the **Minister**. The approved OSMP must be implemented.

Note: Condition 8 was revoked on the date of this consolidated notice.

- 9. Within 30 days after the **recommencement of operations**, the person taking the action must advise the **Department** in writing of the actual date of **recommencement of operations**.
- 10. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the management plans/monitoring programs required by this approval, and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the **Department's** website. The results of audits may also be publicised through the general media.
- 11. Upon the direction of the **Minister**, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.

Note: Condition 12 was revoked on the date of this consolidated notice.

- 13. A plan, program or strategy required by condition 1, 2 or 7 is automatically deemed to have been submitted to, and approved by, the **Minister** if the measures (as specified in the relevant condition) are included in an **environment plan** (or **environment plans**) relating to the taking of the action that:
  - a) was submitted to **NOPSEMA** after 27 February 2014; and
  - b) either:
    - i. is **in force** under the **OPGGS Environment Regulations**; or
    - ii. has ended in accordance with regulation 25A of the **OPGGS Environment Regulations**.

13A. Where a plan, program or strategy required by condition 1 or 7 has been approved by the **Minister** and the measures (as specified in the relevant condition) are included in an **environment plan** (or **environment plans**) that:

- a) was submitted to **NOPSEMA** after 27 February 2014; and
- b) either:
  - i. is **in force** under the **OPGGS Environment Regulations**; or
  - ii. has ended in accordance with regulation 25A of the **OPGGS Environment Regulations**,

the plan, program or strategy approved by the **Minister** no longer needs to be implemented.

13B. Where an **environment plan**, which includes measures specified in the conditions referred to in conditions 13 and 13A above, is **in force** under the **OPGGS Environment Regulations** that relates to the taking of the action, the person taking the action must comply with those measures as specified in that **environment plan**.

## Definitions

**Department:** The Australian Government Department or any other agency administering the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) from time to time.

**Environment Plan:** an environment plan as existing from time to time which has the meaning given in the **OPGGS Environment Regulations**.

**In force:** in relation to an **environment plan**, has the meaning given in the **OPGGS Environment Regulations**.

**Minister:** The Minister administering the *Environment Protection and Biodiversity Conservation Act 1999* and includes a delegate of the Minister.

**Net Environmental Benefit Analysis:** a methodology of comparing and ranking the net environmental benefit of alternative management options.

**NOPSEMA:** the National Offshore Petroleum Safety and Environmental Management Authority or any other agency that administers the **OPGGS Environment Regulations** from time to time.

**OPGGS Environment Regulations:** Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) as in force or existing from time to time.

**Recommencement of operations/recommence the operations:** the recommencement of oil production following suspension of production of oil on 21 August 2009.



## Hydrocarbon thresholds

### Hydrocarbon impact pathways and thresholds

The modelling method described is able to track hydrocarbon concentrations of floating oil, entrained oil and dissolved aromatic hydrocarbons below biologically significant impact levels. Consequently, threshold concentrations are specified for the model to control what contact is recorded for surface (floating oil) and subsurface locations (entrained oil and dissolved aromatic hydrocarbons) to ensure that recorded contacts are for biologically meaningful concentrations.

The determination of biologically meaningful impact levels is complex since the degree of impact will depend on the sensitivity of the biota contacted, the duration of the contact (exposure) and the toxicity of the hydrocarbon mixture making the contact. The toxicity of a hydrocarbon will change over time, due to weathering processes altering the composition of the hydrocarbon. To ensure conservatism in the environmental impact assessment process, the threshold concentrations applied to the model are selected to adopt the most sensitive receptors that may be exposed, the longest likely exposure times and the more toxic hydrocarbons.

Impact pathways and impact threshold concentrations are detailed below for surface (floating) oil, entrained oil and dissolved aromatic hydrocarbons (DAHs).

#### ***Surface (floating) oil***

The impact threshold concentration for exposure to surface (floating) oil is derived from levels likely to cause adverse impacts to marine/ coastal fauna and habitats. Marine/ coastal fauna, habitats and socio-economic receptors may be impacted by floating oil in the following way:

- Marine mammals, reptiles and birds can be exposed to oil when at the water surface. For marine mammals and reptiles this can occur when surfacing within a slick to breathe while for birds this includes contact from diving into a slick or floating on the sea surface while feeding or resting. For marine fauna surfacing in floating oil contact to sensitive areas may occur (e.g. eyes, mouth and respiratory system) creating irritation and potentially cell damage. Volatile compounds evaporating from surface oil may be inhaled by marine mammals and reptiles, particularly when the oil is fresh and relatively unweathered. Inhalation of these compounds may cause damage to internal respiratory structures. It is generally considered that marine mammals with smooth skin (e.g. cetaceans) are less susceptible to coating of oil than those covered with hair given hair has a greater potential to trap and retain oil causing longer exposure times. Birds are particularly susceptible to impact from floating oil in that feathers retain oil, particularly when the oil is 'sticky' (e.g. heavy crudes). The coating of oil on birds may hinder flight and feeding, reduce the ability of the bird to thermoregulate (control body temperature) and irritate/damage sensitive surfaces such as eyes, ears and nasal structures. Secondary impacts can occur through the ingestion of oil as birds attempt to preen contaminated feathers. Ingestion may lead to oil absorption and further toxic impacts;
- Surface oil can coat emergent habitats such as coral or rocky reefs and intertidal and shoreline areas around islands or along coastlines. Habitats that can be affected include rocky shorelines, sandy beaches, mangrove communities and intertidal areas which may support seagrass, algae and coral reef communities. The physical coating of mangroves, in particular their root system, can prevent gas exchange and/or cause toxicity at the cellular level. Mangrove response to oil contact includes deforestation, yellowing of leaves and mortality. Other chronic responses include reduced growth, reduced reproductive output and success and genetic mutation. Intertidal areas may be contacted at low tides where emergent habitat is coated by oil. Seagrass, algae and sessile fauna such as hard corals, soft corals and sponges may be smothered as well as small low mobility fauna that live in close association with these and other benthic habitats or within/on sediments. Smothering of intertidal photosynthetic organisms such as seagrass, algae and hard coral may reduce their capacity for photosynthesis (energy production) or lead to a

toxic response at the cellular level. For seagrass and algae this could lead to plant death, shedding of leaves/thalli, reduced growth, reduced reproductive output/success and genetic mutation. Similarly, for hard corals, bleaching, colony death, reduced growth and reduced reproductive capacity may occur. Such impacts may be exacerbated if these organisms are already under stress from marginal environmental conditions or if impacts occur during critical life-history stages (e.g. spawning periods). Small fauna smothered by oil may be hindered in their ability to move and feed or may suffer a toxic response from mortality to reduced growth rate or reproductive success. The coating of habitats can lead to secondary impacts to marine/coastal fauna. For example, marine turtles and shorebirds may be contacted by oil when using nesting beaches or when roosting/feeding along shorelines, respectively. Marine/coastal fauna may also ingest oil when feeding on coated habitats, e.g. dugongs or turtles ingesting coated seagrass/algae and shorebirds ingesting coated intertidal organisms such as molluscs and crabs; and

- Surface oil may impact on socio-economic receptors such as the oil and gas industry, commercial shipping, fisheries/aquaculture and tourism. The presence of floating oil may pose a human health risk from volatile compounds depending on the nature and freshness of the oil (i.e. fresh light oils and condensates posing the greatest risk) while oil spill response activities targeting floating oil may preclude or disrupt activities by other users in the area both offshore and at oil affected shorelines. This could have an economic impact on affected industries. In addition, floating and stranded oil may be highly visible to the general public and have a resultant negative effect on tourism in affected areas. Real or perceived deterioration of nearshore and coastal habitats may also have long lasting effect on the tourism value of an area and of fisheries activities that may rely on those areas to support healthy fish stocks.

There is a paucity of data on floating oil concentrations with respect to impacts to marine organisms. The impact of floating oil on birds is better understood than other receptors. Estimates for the minimum oil thickness that will harm seabirds (through ingestion from preening of contaminated feathers or loss of thermal protection of their feathers) range from at 10 g/m<sup>2</sup> (O'Hara and Morandin, 2010) to 25 g/m<sup>2</sup> (Koops *et al.*, 2004). A conservative threshold of 10 g/m<sup>2</sup> has been applied to impacts from floating diesel and Legendre crude oil. This hydrocarbon threshold is also considered appropriate for turtles, sea snakes and marine mammals (NRDAMCME, 1997) and has also been applied herein to determine impacts of surface oils to emergent habitat such as coral reefs.

A 1g/m<sup>2</sup> threshold was also modelled which may appear as a rainbow sheen and may be indicative of socio-economic impacts.

### ***Entrained oil***

Entrained oil is oil that is dispersed within the water column as oil droplets. For oil spills released at surface, entrained oil is created in the top few meters of the water column through mixing of surface oil by wave action. For oil spills released subsea (e.g. pipelines leaks, well blowouts) entrained oil may be distributed deeper within the water column.

The concentrations of entrained droplets output by SIMAP represent hydrocarbons that are not bioavailable. The soluble and semi-soluble fractions dissolve from the droplets over time, and a potential effects analysis based on the dissolved hydrocarbons characterizes their risk.

Because PAHs are the most toxic components of oil and crude oils typically contain about 1% PAHs by mass (French-McCay 2002; Forth *et al.* 2017), the sublethal concentration threshold (PNEC) expressed as total hydrocarbon concentration (THC, not TPH) based on the most toxic components would be ~100 µg/L (100 ppb) for fresh oil. However, as oil weathers, PAHs are lost to volatilization and degradation. Thus, the whole-oil threshold of 100 ppb is appropriate for fresh oil and conservative (highly protective of aquatic resources) for weathered oil. An exposure concentration of 1,000 ppb (1 ppm or 1 mg/L) of (total) oil hydrocarbons was deemed a low level of concern for

sensitive life stages in marine organisms by Kraly et al. (2001). The 1 mg/L concentration is at the low end of the range where sub-lethal impacts from acute exposure have been observed (NRC, 2005). Based on the review of toxicity studies by Bejarano et al. (2017), a THC lethal threshold of 3–28 mg/L (or 3–30 mg/L with rounding, given uncertainties) would be appropriate for a range of oils and states of weathering for species from all geographical areas globally.

Based on this information, a contact threshold of 100 ppb was considered a conservative contact threshold for the assessment of impacts from entrained oil.

### ***Dissolved Aromatic Hydrocarbons***

Dissolved hydrocarbons are taken up into organisms directly through external surfaces and gills, as well as through the digestive tract. Thus, soluble and semi-soluble hydrocarbons are bioavailable, whereas insoluble compounds in oil are not bioavailable to aquatic organisms. Laboratory studies have shown that the dissolved hydrocarbons exert the most effects on aquatic biota (Carls et al. 2008; Nordtug et al. 2011; Redman 2015). The volatilization rates of hydrocarbons from surface slicks are faster than the dissolution rates. Thus, dissolution from oil droplets in the water column is the main source of concentrations dissolved in the water.

The most toxic components of oil to water-column and benthic organisms are lower-molecular-weight compounds, which are both volatile and soluble in water (generally in the water accommodated fraction – WAF). The polynuclear aromatic hydrocarbons (PAHs) exert the most toxic effects because they are semi-soluble and not highly volatile, so they persist in the environment long enough for significant exposure to occur (Anderson et al., 1974, 1987; Neff and Anderson, 1981; Malins and Hodgins, 1981; McAuliffe, 1987; NRC 2003, 2005). The monoaromatic hydrocarbons (MAHs), including BTEX (benzene, toluene, ethylbenzene, and xylenes), and the soluble alkanes also contribute to toxicity, but these compounds are highly volatile, so exposures of aquatic biota are minimal or negligible except when light oils are discharged at depth where volatilization does not occur (French-McCay 2002).

French McCay (2018) provides an outline of the measured total PAH concentrations within the water accommodated fraction of medium crude oils as being 74.9 to 282 µ/l.

Within the soluble and semi-soluble hydrocarbons, toxicity is inversely related to solubility, typically quantified by the octanol-water partition coefficient ( $K_{ow}$ ), a measure of hydrophobicity (Nirmalakhandan and Speece 1988; Hodson et al. 1988; Blum and Speece 1990; McCarty 1986; McCarty et al. 1992a, b; Mackay et al. 1992; McCarty and Mackay 1993; Verhaar et al. 1992, 1999; Swartz et al. 1995; French-McCay 2002; McGrath et al 2009).

Due to the toxic nature of MAHs and low molecular weight PAHs, and the ability for these to be transferred across cellular structures, DAHs contribute to the acute toxicity of an oil. The proportion of BTEX, and other DAHs that are readily dissolved or evaporated, diminish over time. DAH concentration is therefore higher around fresh oil than weathered oil. The toxicity of DAHs to an organism is dependent on both the concentration of the oil and the amount of time an organism is exposed to a given concentration.

The range of LC50s varies from ~10 mg/L (ppb) for 3-ring PAHs (which are semi-soluble) to ~10-100 mg/L (ppm) for the highly soluble BTEX compounds (French-McCay 2002). Thus, the toxicity of an oil hydrocarbon mixture is strongly related to the chemical composition, which varies as the oil weathers since the soluble and semi-soluble hydrocarbons are all volatile to varying degree. Aurand and Coelho (2005) suggest that, based on the wide variation of toxicity data, a threshold of 1,000 ppb will represent a reasonable level for protection of more sensitive life stages of organisms residing in the water column.

For most oil spills, exposures of water column biota to concentrations above potential thresholds of concern are typically on time scales of minutes to hours, even for spills lasting weeks or months

because of the varying movements of the oil in the water, dilution and losses to biodegradation and volatilization. Furthermore, the concentrations vary in time over the short exposure periods (McAuliffe et al. 1980, 1981; McAuliffe 1987; Lunel 1994; French McCay 2002, 2004; Bejarano et al. 2014). Thus, the use of LC50s for >48 hours of exposure, or chronic endpoints for longer exposure times, as thresholds for oil spills is highly conservative. Acute aquatic toxicity thresholds would be sufficiently conservative for oil spills in open water systems (as opposed to ponds or other contained systems). There is no need for an ACR correction for evaluating acute toxicity to aquatic biota from oil spills in open waters.

Based on this information, a contact threshold of 70 ppb was considered a conservative contact threshold for the assessment of impacts from dissolved aromatic hydrocarbons.





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## 1. EXISTING ENVIRONMENT FOR THE EMBAS

The Environments that May Be Affected (EMBAs) are the geographical area encompassing the environment that may be affected by the unplanned events associated with the described activities (Figure 1). The maximum extent of an oil spill due to a loss of well control (LOWC) resulting in a major blowout has been used to inform the oil spill response planning and oil spill risk assessment.

See **Section 5.5 of the EP** for the detailed description of the Operational area, including details of Threatened and Migratory animals' distribution, migratory movements, preferred habitat and likely presence within the Operational Area. For other receptors not previously described further detail is provided in this Appendix.

It should be noted that several species identified in the PMST search of the EMBA as listed threatened species have not been presented as they are either terrestrial fauna or bird species that are typically found in habitats distributed on the coastal fringes of Australia, but are unlikely to be present on shorelines. Therefore, these species are not considered relevant to this EP and not discussed further.

### 1.1 Defining the Area

To assist in the impact assessment, four sub-categories of EMBA were defined:

1. Surface hydrocarbons EMBA– hydrocarbons that are 'on' the water surface (1 and 10 g/m<sup>2</sup>);
2. Entrained hydrocarbons EMBA– hydrocarbon that is entrained 'in' the water; (100 ppb);
3. Dissolved hydrocarbons EMBA– the dissolved component of hydrocarbon in' the water (70 ppb); and
4. Shoreline loading EMBA - hydrocarbons that have accumulated on shorelines (10 g/m<sup>2</sup>);

Collectively the total area of impact they intersect with is referred to as the "EMBAs".

Refer to Appendix B for more detail on how the thresholds were defined and the modelling underpinning the EMBAs delineation.

This description of the environment within the EMBAs addresses OPGGS(E) Regulation 13(2), which requires an Environment Plan to include a description of the environment that may be affected by the petroleum activity (EMBA) and to detail particular relevant values and sensitivities of that EMBA.

## 2. MARINE REGIONAL SETTING

Australia's offshore waters have been divided into six marine regions in order to facilitate their management by the Australian Government under the EPBC Act. The EMBAs are located within the North West Marine Region (NWMR) and the North Marine Region (SEWPaC 2012a and 2012b). The objectives of the North and North-west Marine Parks Management Plan 2018 are to provide for:

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

The values are broadly defined as:

- Natural values — habitats, species and ecological communities within marine parks, 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; and
- Socio-economic values — the benefit of marine parks for people, businesses and the economy.

A summary of each region is provided below.

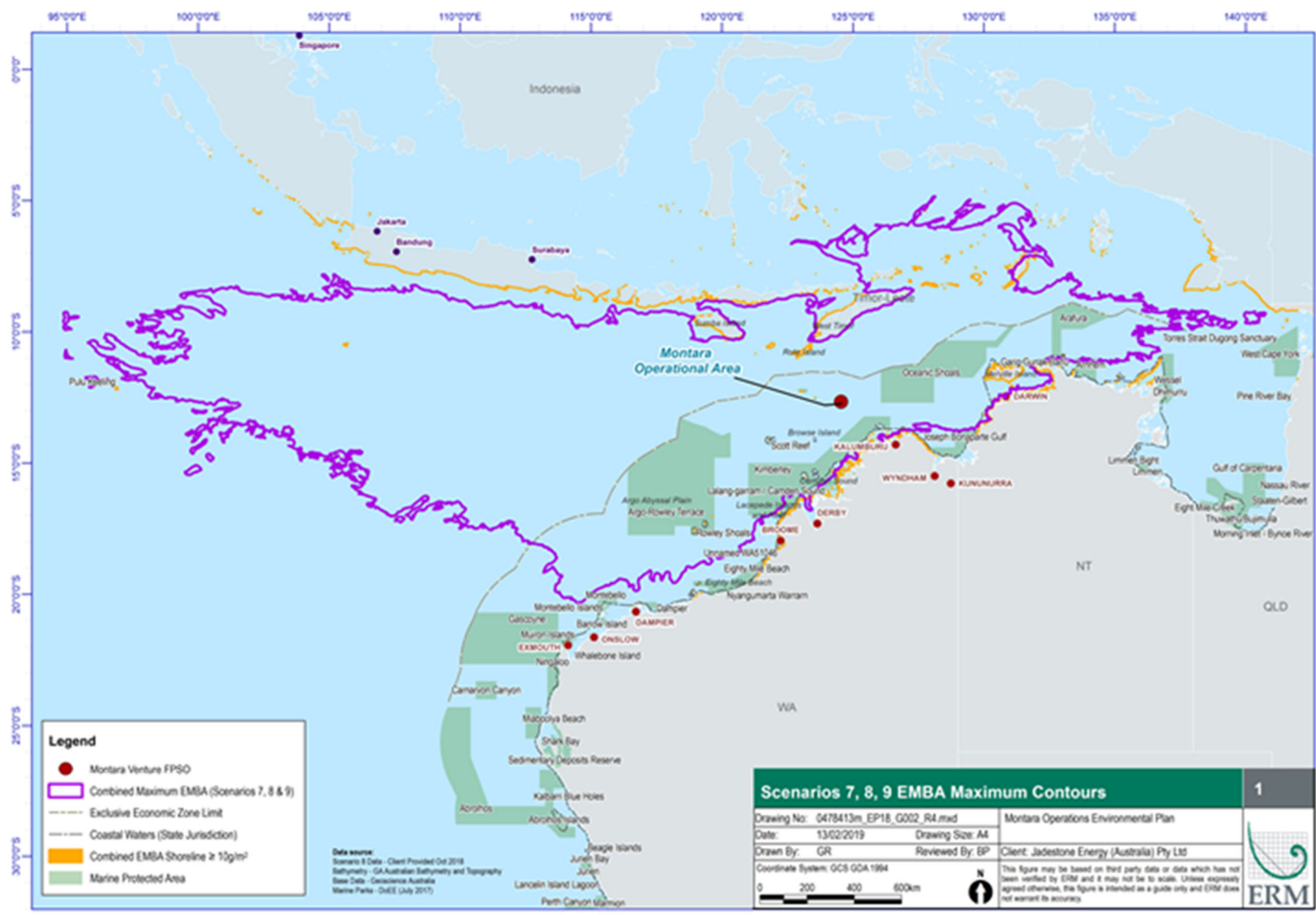


Figure 1: Spatial definition of EMBA

### 2.1.1 North West Marine Region

The NWMR encompasses Commonwealth waters from the Western Australia/ Northern Territory border in the north, to Kalbarri in the south. A number of regionally important marine communities and habitats have been identified as part of the NWMR bioregional plan and WA State planning processes. These include Ashmore Reef, Cartier Island, Seringapatam Reef and Scott Reef, which have been identified as regionally important areas supporting a high biodiversity of marine life and supporting foraging and breeding aggregations. Ashmore Reef and Cartier Island are located approximately 160 km and 100 km north-west, respectively, from the Operational area. A number of key ecological features (KEFs) have been identified in the region (Section 2.6.2). The Continental Slope Demersal Fish Community has been identified as an important marine community, due to its high species diversity and endemism. The Carbonate Bank and Terrace System of the Sahul Shelf has also been identified as regionally important as it is a unique sea floor feature; contributing to the biodiversity and productivity of the local area. Other priority areas in the NWMR include Rowley Shoals and Ningaloo Reef. However, these areas are at least 700 km from the Operational Area.

### 2.1.2 North Marine Region

The NMR comprises Commonwealth waters from the west Cape York Peninsula to the Northern Territory–Western Australia border, covering approximately 625,689 km<sup>2</sup> of tropical waters in the Gulf of Carpentaria and Arafura and Timor seas. This region is highly influenced by tidal flows and less by ocean currents. The marine environment of the NMR is known for its high diversity of tropical species but relatively low endemism, in contrast to other bioregions. A number of regionally important marine communities and habitats have been identified as part of the NMR bioregional plan. These include the Gulf of Carpentaria coastal zone, plateaux and saddle north-west of the Wellesley Islands, and the submerged coral reefs of the Gulf of Carpentaria. Additional to these, KEFs in the region within the EMBA include the Pinnacles of the Bonaparte Basin, the Carbonate Bank and Terrace System of the Van Diemen Rise, the Shelf Break of the Arafura Shelf, the tributary canyons of the Arafura Depression and the Gulf of Carpentaria Basin (Figure 2).

### 2.1.3 Provinces of the NWMR and NMR

These marine regions are further divided into provincial bioregions, with those occurring within the EMBA shown in and summarised in Table 1.

**Table 1: Description of the IMCRA Provincial Bioregions within the EMBA**

Provincial Bioregion	Description
Timor Province	The Timor Province covers an area of 24,040 km <sup>2</sup> and predominantly covers shelf terrace and the continental slope, extending into waters 200 – 300 m deep in the Arafura Depression. The oceanographic environment is mainly influenced by tides, with some influence from the Indonesian Throughflow current. These open waters support pelagic species, including whale sharks, an unusual array of threadfin fish species and distinct genetic stocks of red snapper.
Northwest Shelf Transition	The Northwest Shelf Transition covers the mostly shallow waters (<100 m) between Cape Leveque (WA) and the Tiwi Islands (NT). This transition has a diverse seafloor topography including submerged terraces, carbonate banks, pinnacles, reefs and sand banks.
Northwest Shelf Province	The Northwest Shelf Province is located primarily on the continental shelf between North West Cape and Cape Bougainville, varying in width from 50 m at Exmouth Gulf to more than 250 km off Cape Leveque. Around half of the bioregion has water depths of only 50 – 100 m. It is characterised by a dynamic oceanographic environment, influenced by strong tides, cyclonic storms, long-period swells and internal tides.
Northwest Transition	The Northwest Transition includes the shelf break, continental slope and the majority of the Argo Abyssal Plain of the NMWR. Mermaid Reef is a key topographical feature of the bioregion; a biodiversity hotspot where the steep change in slope around the reef attracts a range of pelagic migratory species including billfish, sharks, tuna and cetaceans.

Provincial Bioregion	Description
Northwest Province	This bioregion is the third largest of all the IMCRA shelf bioregions. It includes units defined by the distribution and abundance of pinnacles, banks, and sand banks. This bioregion contains the 2nd largest area of Class 1 units of all the IMCRA shelf bioregions.
Northern Shelf Province	This bioregion is the largest of all the IMCRA shelf bioregions. It includes units defined by the distribution and abundance of pinnacles, banks, and sand banks. This bioregion contains the largest area of Class 1 units for all of the IMCRA shelf bioregions. This bioregion contains the largest area of Class 7 units of all IMCRA shelf bioregions, dominated by the low-gradient basin located in the Gulf of Carpentaria.
Christmas Island Province	The Christmas Island bioregion covers 277,180 km <sup>2</sup> of the marine area surrounding Christmas Island, specifically capturing the endemic fish species and other fauna associated with Christmas Island.

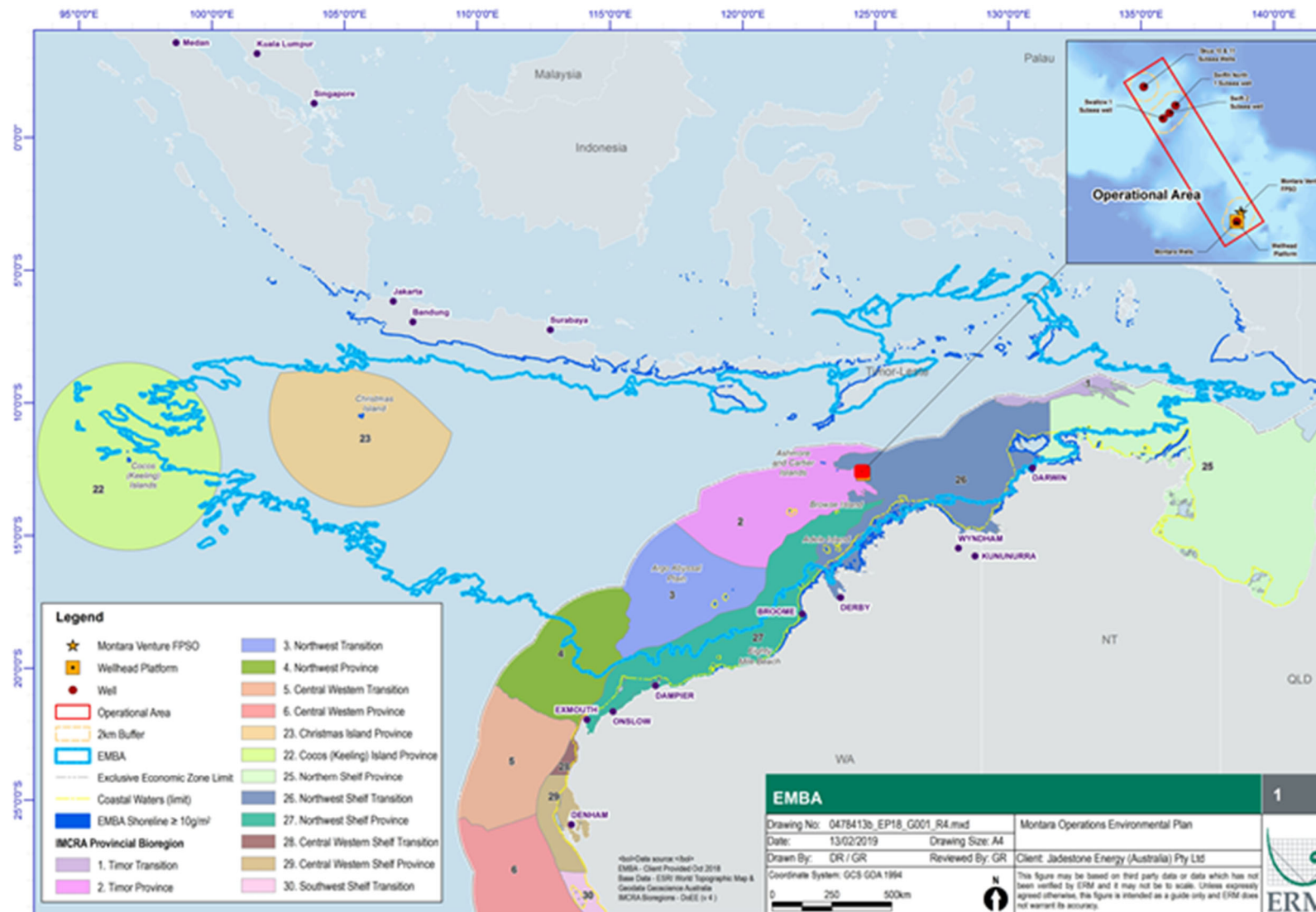


Figure 2: Provincial Bioregions relevant to the EMBA



## 2.2 Biological Environment

### 2.2.1 Benthic habitats and communities

Regionally, the seabed generally comprises a relatively flat and featureless habitat, although numerous seamount or banks can be found along the perimeter of the Australian continental shelf. The shoals and banks in the NWMR share a tropical marine biota consistent with that found on emergent reef systems of the Indo West Pacific region, such as Ashmore Reef, Cartier Island, Seringapatam Reef and Scott Reef. These support a diverse range of benthic communities; algae, soft corals, hard corals and filter feeders. Bare sand and consolidated reef supporting turfing algae are features of all shoals and banks in the Timor Sea. Hard corals and macroalgae tend to be variable in abundance, while soft corals and sponges are often present. All banks and shoals in the region support comparable levels of biodiversity but vary in the abundance and diversity of dominant species (Heyward et al. 1997; 2017).

A benthic habitat assessment was undertaken in the area of Petroleum Production Licence AC/L7 during the 2010 wet season, which included the Montara field and surrounding areas (ERM 2011). Surveys were carried out using a towed video system and seabed sediment samples were also collected for sediment and macrobenthic fauna analysis. Benthic habitats surveyed were characterised by homogenous, flat, featureless soft sediment; predominately comprised of sand with small rubble/shell fragments and marked by low relief ripples with evidence of bioturbation. Sparse patches of epifauna were recorded and included hydroids, octocorals (soft corals, gorgonians and seapens), black corals and ascidians.

Macrobenthic faunal assemblages surveyed had a generally low and highly patchy abundance of individuals. Polychaete bristleworms from the Phylum Annelida contributed the highest relative abundance of macrobenthic assemblages across the surveyed area, ranging from approximately 40 to 60% followed by Malacostracan crustaceans (shrimps, crabs etc.; approximately 13 to 19%). Gastropoda was represented by 33 taxa across the surveyed area with abundance ranging from approximately 0.5 to 5% (ERM 2011).

Hydrozoa and Bryozoa were the other common groups encountered in samples. All other taxa identified across the surveyed areas were minor contributors to macrobenthic assemblages (relative abundance <5%) (ERM 2011).

Deep water soft sediment habitats are expected to be broadly similar in the wider EMBA to the surveyed locations in the Montara field and surrounding areas. In a study of benthic habitats on the continental shelf near the Big Bank Shoals (approximately 200 km to the northeast of the Operational area) by Heyward et al. (1997), the predominant benthic infaunal species were polychaetes (burrowing worms) and crustaceans (prawns, shrimp, crabs, etc.). These two groups made up 84% of the total species in sediment samples with a high diversity of species but a low abundance of each individual species. The remaining 16% of species included echinoderms, such as sea stars, sea urchins, feather stars, molluscs, both gastropods and bivalves, nemertean (ribbon worms), sponges and fish. Epibenthic communities were sparse and species commonly associated with soft sediment habitats included sponges, gorgonians such as sea whips and sea fans, ascidians such as sea squirts, echinoderms, crustaceans, bryozoans such as lace corals, and soft corals (Heyward et al. 1997). The absence of light and hard substrate is considered a limiting factor for recruitment of epibenthic organisms.

Windows of sensitivity are shown in Table 2. Key locations for types of benthic communities are shown in Table 3.

**Table 2: Benthic habitat windows of sensitivities**

Key	Peak times											
	January	February	March	April	May	June	July	August	September	October	November	December
<b>Key Ecosystems and Biological Resources</b>												
Coral: Spawning												
Seagrass: Flowering and Fruiting												

### 2.2.2 Banks and Shoals

There are around 150 shoal/bank features across the Sahul Shelf and a high level of interconnectivity exists between them. They are often 5 – 20 km apart, creating an extensive series of ‘stepping stone’ habitats for larval recruitment. The larval development rates of the species present, current speeds (20–30 km/d in mild weather) and the relatively short distance between the shoals, banks and reefs maintains this connectivity. As such, neighbouring shoals and banks (i.e. within 100s of kms) share ~>80% benthic community composition (Heyward et al. 2017). The associated fish fauna is highly diverse but variable between shoals and banks but sharing of many species, which is influenced by depth, substrate, exposure to prevailing weather. Fish species richness tends to increase with reef structure and size of shoal/bank (Heyward et al. 2017).

By analysing local bathymetry, Heyward et al. (2010) identified more than 20 possible shoal features within a 100 km radius of the Operational area and greater than 100 similar bathymetric features within 200 km. The nearest shoals to the Operational area, which are likely to experience the highest concentrations of entrained and dissolved hydrocarbons in the event of a LOWC are Goeree and Vulcan Shoals, located approximately 30 km to the southwest. Other shoals in close proximity include Eugene McDermott Shoal (approximately 45 km south) and Barracouta Shoal (approximately 60 km northwest).

#### **Barracouta and Vulcan Shoals**

Extensive surveys to characterise the habitats and ecosystems of the Barracouta and Vulcan Shoals were undertaken between 2010 and 2013 (Heyward et al. 2010, 2011a, 2013). These shoals rise steeply from 100 to 200 m depths on the outer continental shelf and are elliptical in shape with the long axis running approximately east-west (Heyward et al. 2010). The shoals begin to plateau at approximately 40 to 50 m depth with the plateau area of each shoal covering several square kilometers (10 to 15 km<sup>2</sup>) at depths of 20 to 30 m (Heyward et al. 2011a). Occasional higher ground rises to within approximately 10 m of the sea surface.

The surveys observed that Barracouta and Vulcan Shoals support diverse biological communities across their shallow plateau areas, with many organisms typical of shallow water coral reefs (Heyward et al. 2010, 2011a, 2013). Benthic environments were composed of ~25-42% living macro-epibenthic organisms, including diverse algae, sponge, and hard and soft coral communities, interspersed with rubble, sand and consolidated reef (Heyward et al. 2013). Extensive rubble and rock fields were observed to support reef building corals, seagrass, algae and filter feeders, particularly the calcareous green algae *Halimeda* species.

Significant differences were observed between the Barracouta and Vulcan Shoals in the relative abundance of dominant groups, particularly the algae, seagrass, hard corals and soft corals. The western margin of the Barracouta Shoal supported abundant soft corals and calcareous red and

green algae with only a limited area of seagrass. Vulcan Shoal supported extensive seagrass fields at the eastern end as well as hard corals, algae and some filter feeders. The surveys also indicated that Barracouta Shoal had more bare sand and consolidated low, reef-like substrate in comparison to Vulcan Shoal. These consolidated areas were dominated by light dependent organisms and supported a rich coral community and macroscopic invertebrates or encrusting red algae. Filter feeders such as sponges and soft corals, generally had a lower representation although they were widely distributed (Heyward et al. 2010, 2011a, 2013).

### 2.2.3 Shoreline Habitats

A wide variety of shoreline habitats are present within the EMBA's. Key locations for shoreline habitats is shown in Table 4.

**Table 3: Key locations of benthic and coastal/shoreline habitat**

	Timor Province	Northwest Province	Northwest Transition	Northwest Shelf Province	Northwest Shelf Transition	Northern Shelf Province	Timor Transition	Christmas Island Province	Other (Indonesia, Timor Leste)
Coral	Ashmore Reef, Cartier Island, Hibernia, Scott and Seringapatam Reef, shoals and banks of the Sahul Shelf	Montebello Islands, Dampier Archipelago	Rowley Shoals	Browse Island	Big Bank Shoals			Christmas Island	Indonesia (west) Rote Island Timor-Leste (east - Coral Triangle)
Seagrasses	Ashmore Reef, Cartier Island, Scott Reef, Seringapatam reefs	Eighty Mile Beach, Montebello Islands	Rowley Shoals		Darwin Coast, Tiwi Islands	Arnhem Coast		Present but no significant areas	Indonesia (west) Kepulauan Seribu National Park Timor-Leste
Macroalgae	Ashmore Reef, Cartier Island, Scott Reef, Seringapatam Reef, shoals and banks of the Sahul Shelf, Barracouta Shoal	Dampier Archipelago, Shallow coastal and offshore waters of the Pilbara, Montebello Islands		Present but no significant areas	Big Bank Shoals			Present but no significant areas	Present but no significant areas
Non-coral benthic Invertebrates	Ashmore Reef, Cartier Island, Scott Reef, Seringapatam Reef, shoals and banks of the Sahul Shelf, Vulcan Shoal, Barracouta Shoal, Goeree Shoal	Present but no significant areas	Rowley Shoals	Dampier to Port Hedland	Big Bank Shoals, Van Diemen Rise	Present but no significant areas	Present but no significant areas	Present but no significant areas	Present but no significant areas

**Table 4: Location of key shoreline habitats**

	<b>Timor Province</b>	<b>Northwest Province</b>	<b>Northwest Transition</b>	<b>Northwest Shelf Province</b>	<b>Northwest Shelf Transition</b>	<b>Northern Shelf Province</b>	<b>Timor Transition</b>	<b>Christmas Island Province</b>	<b>Other (Indonesia, Timor Leste)</b>
Mangroves	Not present	Not present	Not present	North Kimberley Marine Park, Port Hedland, Karratha	Darwin Coast, Tiwi Islands, Joseph Bonaparte Gulf, Kakadu	Cobourg Peninsula, Kakadu	Not present	Present but no significant areas	Indonesia (west)
Intertidal sand/mud flats	Ashmore Reef	Not present	Not present	Eighty Mile Beach, Roebuck Bay	Darwin Coast, Joseph Bonaparte Gulf, Kakadu	Cobourg Peninsula, Arnhem Coast, Kakadu	Not present	Present but no significant areas	
Intertidal platforms	Ashmore Reef, Scott Reef, Cartier Island	Not present	Not present	Eight Mile Beach	Darwin Coast, Joseph Bonaparte Gulf	Cobourg Peninsula, Arnhem Coast	Not present	Present but no significant areas	Present but no significant areas
Sandy beaches	Ashmore Reef, Sandy Islet (Scott Reef)	Not present	Not present	Eight Mile Beach	Darwin Coast	Arnhem Coast, Cobourg Peninsula	Not present	Present but no significant areas	
Rocky shorelines	Not present	Not present	Not present	North Kimberley Marine Park, Dampier to Point Samson	Present but no significant areas		Not present		Present but no significant areas

## 2.2.4 Plankton and Invertebrates

Plankton is divided into two categories: phytoplankton and zooplankton. Phytoplanktonic algae are important primary producers and range in size from 0.2 to 200 µm. Zooplankton are small, mostly microscopic animals that drift with the ocean currents, and it has been estimated that 80% of the zooplankton in waters off Australian continental shelf and shelf margin are the larval stages of fauna that normally live on the seabed (Raymont, 1983). A common feature of plankton populations is the high degree of temporal and spatial variability. Phytoplankton in tropical regions have marked seasonal cycles with higher concentrations occurring during the winter months (June–August) and low in summer months (December–March) (Hayes et al., 2005; Schroeder et al., 2009). Zooplankton rely on phytoplankton as food, and are subject to similar seasonality. Key windows of sensitivity for plankton is shown in Table 5.

**Table 5: Plankton windows of sensitivity**

Key	Peak times											
	January	February	March	April	May	June	July	August	September	October	November	December
Plankton: Concentrations												

## 2.2.5 Fish, Sharks and Rays

Within the EMBA, potential spawning grounds exist for southern bluefin tuna, goldband snapper and red emperor. The spatial occurrence of spawning is variable and poorly understood; however, temporally it appears that southern bluefin tuna spawn from August to April (peak October to February), goldband snapper from January to April (peak March), and red emperor from October to March (peak October) (Table 14). None of these species are listed as threatened; however, they are commercially valuable.

## 2.2.6 Indonesia and Timor Leste

The Indonesian coastline is rich in tropical marine ecosystems such as sandy beaches, mangroves, coral reefs and seagrasses ecosystems (Hutumo and Moosa 2005). These are home to a wide variety of living communities and a high species diversity and richness.

The best environment for growth of seagrass is considered to be the sandy reef flats that occur in sheltered areas in the low tidal ranges. Wide areas of the Indonesian coastal waters are covered by dense beds of seagrass. Pioneering vegetation in the intertidal zone is dominated by *Halophila ovalis* and *Halodule pinifolia*, while *Thalassodendron ciliatum* dominate the lower subtidal zones.

Indonesia has an estimated 75,000 km<sup>2</sup> coral reef ecosystem distributed throughout the archipelago (Tomascik et al. 1997 cited in Hutumo and Moosa 2005). Fringing reefs are the most common reef types with scleractinian corals being the most dominant and important group. It is estimated that Indonesian waters are home to 452 species of hermatypic scleractinian coral and 590 species of scleractinian corals (Tomascik et al. 1997, cited in Hutumo and Moosa 2005; Suharsono 2004, cited in Hutumo and Moosa 2005).

The Java and Bali Province is rich in tropical marine ecosystems such as mangroves, coral reefs, seagrasses and seaweeds, sand beaches on the east coast of Java and rocky coasts on the south-eastern coast of Bali. The mangrove forests provide a valuable physical habitat for a variety of

important coastal species such as crabs, shrimps, fishes, and commercial fishes. Turtles are commonly seen at Crystal Bay, Nusa Penida.

Maluku Province's inshore waters are rich in mangroves, seagrass beds and coral reef habitats for dugongs, green turtle, reef fish, shark, giant clam and trochus (Moss and Van Der Wal 1998).

West Nusa Tenggara Province consists of two islands: Lombok Island and Sumbawa Island. Mangroves, seagrass beds and coral reefs exist in the surrounding waters of Lombok (Tomascik et al. 1997 cited in Hutumo and Moosa 2005). It has been noted that fishermen in the west coast of Lombok collect seagrass from mixed seagrass meadows (Tomascik et al. 1997 cited in Hutumo and Moosa 2005). Green turtles and dugong likely feed on the seagrass beds located on the west coast of Lombok and north coast of Sumbawa.

Mangrove forests in Indonesia account for 76% of the total mangroves found in the southeast Asian region. The Timor Leste coastline features mangrove communities surrounding entrance to rivers primarily on the south coast, whilst the north and eastern coast feature a higher degree of coral reef communities.

Below lists out the shoreline habitats that are present in the East Nusa Tenggara Province and Timor Leste:

- Rote Island features mangrove communities with sparse patches of seagrass habitats and high abundance of coral reef communities.
- The Savu sea region has an abundance of coral reef habitats that act as nurseries and feeding grounds for whales and dolphins. In particular, Savu and Raidjua Islands are surrounded by a fringing coral reef community. Savu Island features a small area of seagrass located in the north east corner of the Island.
- Sumba Island is surrounded by a fringing coral reef community, with sparse patches of seagrass and mangrove communities around the island.
- The majority of the West Timor coastline features a narrow fringing coral reef community with four dense areas of mangrove communities occurring primarily along the south coast.
- Pulau Dana the southernmost island of Indonesia is surrounded by exposed reefs and is known to be inhabited by a large number of bird species and nesting turtles.
- Alor is an island located at the border between Indonesia and Timor Leste with mangroves, coral reefs and seagrasses.
- The majority of the Pulau Semau coastline features a narrow fringing coral reef community with areas of mangrove and seagrass communities occurring primarily along the east coast.

### 2.3 Matters of National Environmental Significance (MNES)

Conservation values and sensitivities listed and protected under the EPBC Act include Matters of Environmental Significance (MNES) and Other Protected Matters. MNES occurring, or potentially occurring, in the EMBA are summarised in Table 6 and shown in Figure 3. The full EPBC Act Protected Matters report is provided in Appendix E.

**Table 6: Summary of conservation values and sensitivities in the EMBA**

MNES Protected under EPBC Act	EMBA Presence
World Heritage	✓ (1)
National Heritage Places	✓ (3)
Wetlands of International Importance (Ramsar)	✓ (9)
Great Barrier Reef Marine Park	✗
Commonwealth Marine Areas	✓ (2)
Threatened Ecological Communities	✓ (1)
Listed Threatened Species	✓ (104)
Listed Migratory Species	✓ (94)
Nuclear actions and water resources, in relation to coal seam gas or coal mining	✗
<b>Other Matters Protected under EPBC Act</b>	

MNES Protected under EPBC Act	EMBA's Presence
Commonwealth Land	✓
Commonwealth Heritage Places	✓ (43)
Listed Marine Species	✓ (179)
Whales and other cetaceans	✓ (31)
Critical habitats	✗
Commonwealth reserves terrestrial	✗
Australian Marine Parks	✓ (15)
<b>Other Areas of high conservation significance</b>	
State and Territory Marine Parks (MP) and Marine Management Areas (MMA)	✓
Key Ecological Features (KEFs) (Marine)	✓ (15)



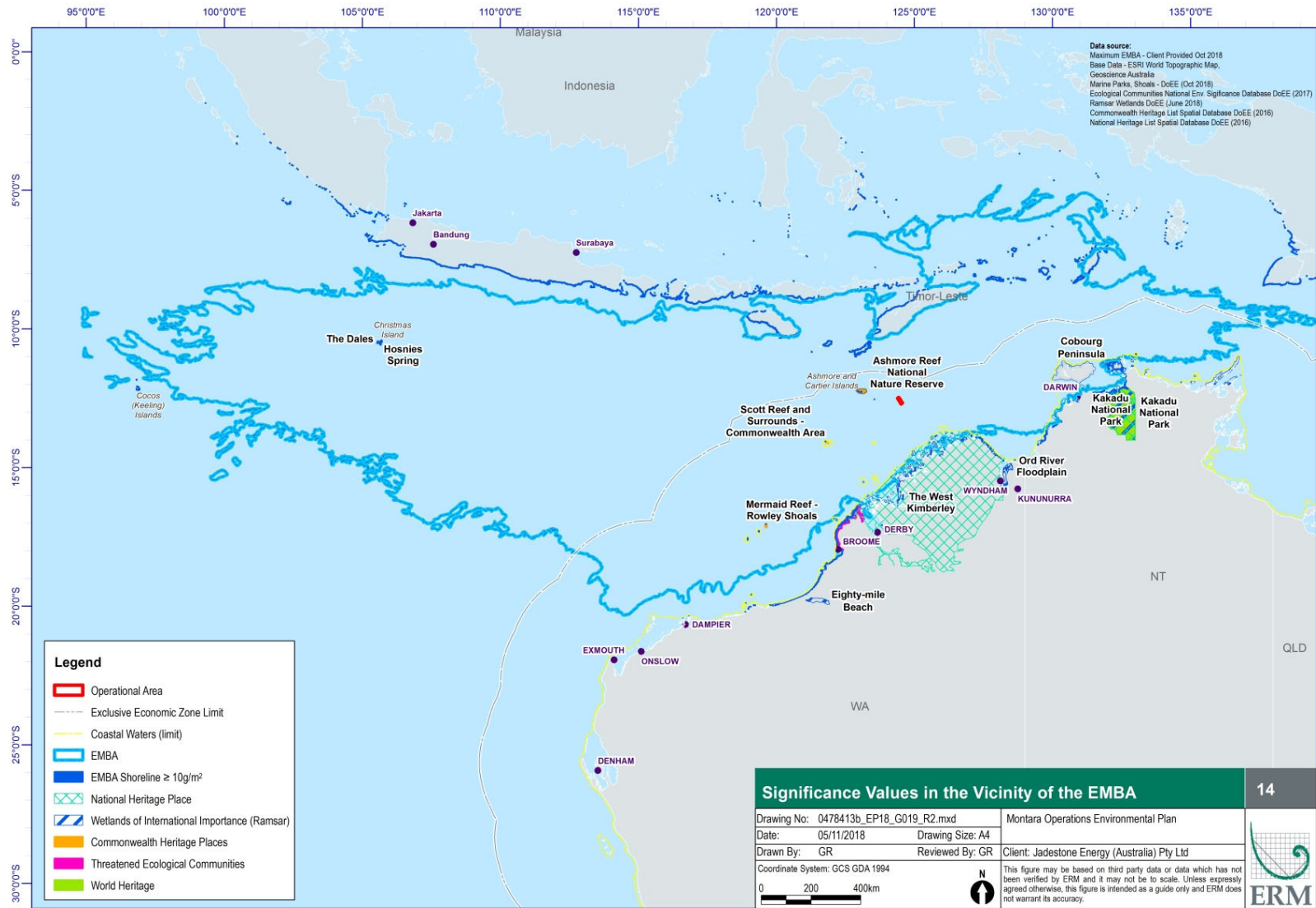


Figure 3: Conservation values and sensitivities in the EMBA

### 2.3.1 World Heritage Places

Although it will not receive floating/entrained/dissolved oil above threshold, Kakadu National Park has been described as there is the potential for shoreline loading along its coastal boundaries, making this within the EMBAs (Table 7).

**Table 7: World Heritage place distance to Montara**

World Heritage Place	Straight-line distance from Montara
Kakadu National Park	798 km

#### **Kakadu National Park**

Covering almost 20,000 km<sup>2</sup>, Kakadu National Park is located at the convergence of four distinct bioregions; the Arnhem Plateau, Arnhem Coast, Darwin Coast and Pine Creek bioregions. Kakadu includes mangrove-fringed tidal plains in the north, vast woodplains, lowlands and the sandstone cliffs of the Arnhem Land escarpment. Kakadu National Park was first inscribed on the World Heritage list in 1981 and was subsequently expanded and re-inscribed in 1987 and again in 1992. The Koongarra area was added to the World Heritage Area in June 2011. The park meets five criteria of outstanding universal values as set out in the World Heritage Convention and all nine criteria for identifying wetlands of international importance under the Ramsar Convention (see Table 9). Numerous migratory species that occur in Kakadu are protected under international agreements such as the Bonn convention for conserving migratory species, and Australia's migratory bird protection agreements with China (CAMBA), Japan (JAMBA) and the Republic of Korea (ROKAMBA).

### 2.3.2 National Heritage Places

The West Kimberley and Dampier Archipelago are described below. Kakadu National Park has been described elsewhere as it is also a World Heritage Place, National Park and Ramsar Wetland (Table 10).

**Table 8: National Heritage Place distances**

National Heritage Place	Straight-line distance from Montara
The West Kimberley	173 km
Kakadu National Park	798 km
Dampier Archipelago (including the Burrup Peninsula)	1,181 km

#### **The West Kimberley**

The West Kimberley was included on the National Heritage List in 2011 and has numerous values which contribute to the significance of the property, including indigenous, historic, aesthetic, cultural and natural heritage values (DoE 2014d). Of these values, the most relevant to the marine environment is Roebuck Bay as a migratory hub for shorebirds. The area is characterised by a diversity of landscapes and biological richness found in its cliffs, headlands, sandy beaches, rivers, waterfalls and islands.

#### **Dampier Archipelago**

The Dampier Archipelago (including the Burrup Peninsula) contains one of the densest concentrations of Indigenous rock engravings in Australia. The diverse array of Aboriginal heritage sites includes dreaming, ceremonial, rock engraving and archaeological sites. It is of exceptional heritage interest for its array of rock engravings and stone arrangements and the importance of these within the traditions of the Ngarda-Ngarli peoples.

### 2.3.3 Wetlands of International Importance (Ramsar)

There are 9 "wetlands of international importance" under the Convention on Wetlands of International Importance (Ramsar Convention), referred to henceforth as Ramsar wetlands, within the EMBAs (Figure 3). The particular values for those sites that could be affected by marine impacts are outlined in Table 10.

**Table 9: Wetland of International Importance (RAMSAR) distances**

<b>Wetland of International Importance (RAMSAR)</b>	<b>Straight-line distance from Montara</b>
Ashmore Reef National Nature Reserve	125 km
Cobourg Peninsula	800 km
The Dales	2,093 km
Eighty Mile Beach	769 km
Kakadu National Park	798 km
Ord River Floodplain	500 km
Pulu Keeling national park	2963 km
Roebuck Bay	637 km

There are a number of key management principles applicable to Ramsar wetlands. Contracting parties of the Ramsar Convention are expected to manage their Ramsar Sites so as to maintain their ecological character and retain their essential functions and values for future generations. Preventing, stopping and reversing the loss and degradation is one of the priority areas of focus for the Ramsar Convention over 2016–2025.

The most significant threats to the ecological character of these sites are identified to be from seismic surveys, drilling activities, oil spills, mineral resource recovery and exploration. However, the majority of these impacts are recognised to be localised and short-term, and would therefore only be relevant if development occurs in close proximity to the reserve.

Management goals include protecting the reserves from extractive commercial activity and minimising potential impact on the natural features of the reserve from exploration and extraction activities in the region. Relevant management strategies include prohibition of mining operations (including mineral and petroleum exploration and development) within the reserve and continuing to liaise with relevant departments and agencies in relation to proposals for exploration and extraction in the vicinity of the reserve.

**Table 10: Description of Ramsar Wetlands of International Importance within the EMBA**

Ramsar Wetland	Ecological Characteristics	Relevant Management Documents
Ashmore Reef Marine Park Ramsar site	<ul style="list-style-type: none"> <li>- All wetland types present are in near natural condition</li> <li>- Supports 64 internationally and nationally threatened species</li> <li>- Supports 47 waterbird species listed as migratory under international treaties, plus breeding of 20 waterbird species</li> <li>- Important feeding site for 3 turtle species and critical nesting and inter-nesting habitats for 2 turtle species</li> <li>- Regularly supports more than 20,000 waterbirds and has been known to support more than 65,000 waterbirds</li> <li>- Regularly supports &gt; 1% of at least 6 species of waterbird</li> </ul>	<p>Environment Australia (2002) DoNP (2018a) Hale and Butcher (2013)</p>
Cobourg Peninsula Ramsar site	<ul style="list-style-type: none"> <li>- Covers an area of 2,207 km<sup>2</sup></li> <li>- Wetlands represent some of the better protected and near-natural wetlands in the bioregion</li> <li>- Diverse array of wetland in a confined area</li> <li>- Supports 14 nationally or internationally endangered or vulnerable marine fauna species</li> <li>- Supports a diverse assemblage of flora and fauna species, plus almost all Ramsar wetland types known to occur within the bioregion</li> <li>- Provides nesting habitat for significant populations of marine turtles and habitat for several cetaceans</li> <li>- Supports significant seabird breeding colonies and important feeding and nesting habitat for migratory shorebirds (including 37 species listed under migratory bird agreements)</li> <li>- Provides a wide range of habitats, feeding areas, dispersal and migratory pathways and spawning sites for numerous fish species of direct and indirect fisheries significance, plus crustaceans</li> </ul>	<p>Cobourg Peninsula Sanctuary and Marine Park Board and Parks and Wildlife Service of the Northern Territory (2011) Ecological Character Description for Cobourg Peninsula Ramsar Site</p>
The Dales	<ul style="list-style-type: none"> <li>- Located on Christmas Island the Dales Ramsar site is located within the Christmas Island National Park, with the western boundary of the site extending to 50 m seaward from the low water mark (including a narrow, shallow reef)</li> <li>- System of seven watercourses that contain a number of wetland types</li> <li>- Exhibits unusual water-related limestone deposition features, including a 'flowstone' formation that is usually found underground</li> <li>- supports a wide diversity of endemic and threatened species (Director of National Parks 2014)</li> <li>- Migrating red crabs pass through the area on their annual breeding</li> <li>- Provides critical habitat for blue crabs that are dependent upon the freshwater streams for their reproductive cycle</li> <li>- Supports endemic fauna species including the Abbott's booby, blue crabs and forest birds (Director of National Parks 2014)</li> </ul>	
Eighty Mile	<ul style="list-style-type: none"> <li>- Comprises a 220 km beach between Port Hedland and Broome with extensive intertidal mudflats and Mandora Salt</li> </ul>	<p>Environment Australia (2002)</p>

Ramsar Wetland	Ecological Characteristics	Relevant Management Documents
Beach	<p>Marsh, located 40 km east (Hale &amp; Butcher 2009) totalling 175,487 ha</p> <ul style="list-style-type: none"> <li>- Supports an abundance of macroinvertebrates which provide food for large numbers of shorebirds</li> <li>- One of the most important sites for migratory shorebirds in the East Asian Australasian Flyway, with 42 migratory shorebird species recorded</li> <li>- Estimated that 500,000 shorebirds use it as a migration terminus annually (Hale and Butcher 2009)</li> <li>- &gt;472,000 migratory waders have been counted on the mudflats during the September to November period</li> <li>- Primary staging area for many migratory shorebirds on their way to and from Alaska and eastern Siberia (Hale &amp; Butcher 2009)</li> <li>- Some species remain at the site for the non-breeding period</li> <li>- Supports &gt;1% of the flyway population (or 1% of the Australian population for resident species) of 21 waterbirds, including 17 migratory species and four Australian residents</li> <li>- One of the most important sites in the world for the migration of Great Knot</li> <li>- Supports a high diversity and abundance of wetland birds.</li> <li>- Total of 97 wetland bird species have been recorded within the beach portion of the Ramsar site (Hale &amp; Butcher 2009). Includes 42 species that are listed under international migratory agreements CAMBA (38), JAMBA (38) and ROKAMBA (32) as well as an additional 22 Australian species that are listed under the EPBC Act</li> <li>- A single record for Nordmann's Greenshank (<i>Tringa guttifer</i>) from the beach, which is listed as endangered under the IUCN Red List</li> <li>- Flatback turtles regularly nest at scattered locations</li> <li>- Traditionally part of Karajarri Country in the north, Nyangumarta Country in the south and Ngarla Country in the southern end</li> <li>- The site has artefacts such as middens, pinka (large baler shells used to scoop and carry water for drinking), wilura (used for sharpening spear heads), axes, and flakes, and kurtanyanu and jungari (grinding stones)</li> </ul>	
Kakadu National Park	<ul style="list-style-type: none"> <li>- A mosaic of contiguous wetlands comprising the catchments of two large river systems, the East and South Alligator rivers, seasonal creeks and the lower reaches of the East Alligator River. It also includes the Magela Creek floodplain, the lower South Alligator floodplain, virtually the entire West Alligator River system and nearly all the Wildman River system</li> <li>- Comprises sandstone plateau communities, escarpments, extensive seasonal floodplains, estuaries, tidal flats and offshore islands. The rivers are tidal in their lower reaches and are associated with extensive tidal flats formed from riverborne mud</li> <li>- The Wildman, West Alligator and East Alligator rivers support bands of mangrove forest along their tidal reaches</li> <li>- During the dry season water contracts into lagoons and billabongs and up to two million waterbirds accumulate on</li> </ul>	

Ramsar Wetland	Ecological Characteristics	Relevant Management Documents
	<p>the floodplains</p> <ul style="list-style-type: none"> <li>- At least 53 species of waterbirds use the Ramsar site including large concentrations of magpie geese and wandering whistling-duck. These and many other species breed in the wetlands but most species are dry season migrants.</li> <li>- Both freshwater and saltwater crocodiles are known to breed within the Ramsar site</li> <li>- 59 fish species are known from the wetland, including eight with narrowly restricted ranges</li> <li>- The area has significant cultural and heritage value. Kakadu has been home to Indigenous people for more than 50 000 years, and during that time the land and their culture have become intertwined</li> </ul>	
Ord River Floodplain	<ul style="list-style-type: none"> <li>- Floodplain and estuarine wetland system</li> <li>- The site includes the Ord River Estuary leading into the Cambridge Gulf</li> <li>- The north-east end of the site heads around the coast to include a series of extensive intertidal creeks and flats known as the False Mouths of the Ord</li> <li>- The upstream portion of the floodplain and river tends to be freshwater, and becomes more saline as the river approaches the Cambridge Gulf and falls under tidal influence</li> <li>- Mangroves are the most common vegetation in the site, extending from the False Mouths of the Ord to the upstream sections of the estuary</li> </ul> <p>The mangroves form narrow fringes along the intertidal areas, with saltmarsh on higher ground. The intertidal mangroves support many species of birds and bats, and are a breeding area for banana prawns</p> <ul style="list-style-type: none"> <li>- Over 200 species of birds have been recorded within the site including waterfowl, migratory shorebirds, mangrove birds and terrestrial species.</li> <li>- The wetlands are habitat for many diadromous fish species (that require migration between marine and more freshwater environments some time during their life), including the nationally threatened species freshwater sawfish, green sawfish and northern river shark</li> </ul>	
Pulu Keeling national park	<p>Pulu Keeling National Park protects the natural and cultural values of the 122 hectare North Keeling Island and its surrounding marine waters, within a roughly rectangular boundary framing 2,602 hectares of land and sea. The entire park is listed as a Ramsar wetland.</p> <p>Fifteen species of birds recorded on the Island are listed under international migratory bird agreements and 15 seabird species use the atoll for nesting. The breeding colony of the dominant bird species, the red-footed booby, is one of the largest in the world. It is also the main locality of the endemic Cocos buff-banded rail.</p> <p>The Ramsar site supports three endemic species: the Cocos buff-banded rail; the Cocos sub-species of <i>Pandanus tectorius</i>; and the angelfish, which is only recorded from Christmas and the Cocos (Keeling) Islands. In addition, Pulu Keeling National Park supports a number of species of plant and animal that are not recorded in the southern atoll islands</p> <ul style="list-style-type: none"> <li>- relatively pristine ecosystems and habitat of high significance for Indian Ocean seabirds, playing a vital part in the</li> </ul>	Pulu Keeling National Park Management Plan 2015 - 2025

Ramsar Wetland	Ecological Characteristics	Relevant Management Documents
	<p>stability of the Indian Ocean seabird biota</p> <ul style="list-style-type: none"> <li>- one of the largest known nesting habitats for the red-footed booby in the world</li> <li>- The park is a listed for its natural and cultural heritage significance as a place on the Commonwealth Heritage List under the EPBC Act because of the park's <ul style="list-style-type: none"> <li>o importance in the course, or pattern, of Australia's natural or cultural history</li> <li>o possession of uncommon, rare or endangered aspects of Australia's natural or cultural history</li> <li>o potential to yield information that will contribute to an understanding of Australia's natural or cultural history and importance in demonstrating the principal characteristics of a class of Australia's natural or cultural places or a class of Australia's natural or cultural environments.</li> </ul> </li> <li>- The park is categorised as IUCN Ia and IIa</li> <li>- Green turtles nest on the island and hawksbill turtles (inhabit the waters of the park. The only species of sea snake recorded from the southern atoll is the yellow-bellied sea-snake.</li> <li>- There are no known cetaceans that are restricted to Pulu Keeling National Park, but two species of dolphin are regularly seen in the park. They are the Common dolphin and the Bottlenose dolphin.</li> </ul>	
Roebuck Bay	<ul style="list-style-type: none"> <li>- Covers an area of 34,119 ha</li> <li>- Large tidal range which exposes ~160 km<sup>2</sup> of mudflat, covering most of the Ramsar site (DoE 2014c)</li> <li>- Intertidal mud and sand flats support a high abundance of bottom dwelling invertebrates (between 300—500 benthic invertebrate species), which are a key food source for waterbirds (Bennelongia 2009)</li> <li>- One of the most important migration stopover areas for shorebirds in Australia and globally</li> <li>- For many shorebirds, Roebuck Bay is the first Australian landfall they reach on the East Asian Australasian Flyway</li> <li>- Total numbers of waders using the site each year is estimated at over 300,000 (DoE 2014c)</li> <li>- The northern beaches and Bush Point provide important high tide roost sites</li> <li>- Mangrove swamps line the eastern and southern edges of the site, and extend up into the linear tidal creeks (DoE 2014c). They are important nursery areas for marine fishes and crustaceans, particularly prawns</li> <li>- Extensive seagrass beds occur in the bay, providing an important feeding ground for dugongs and loggerhead and green turtles (Bennelongia 2009)</li> <li>- Flatback turtles nest in small numbers</li> <li>- Marine fish (including sawfish) regularly breed in the tidal creeks and mangroves</li> <li>- Dolphins regularly use the site (DoE 2014c)</li> </ul>	

### 2.3.4 Commonwealth Marine Areas

The EMBA's are within the EEZ and Territorial Sea and the Extended Continental Shelf Commonwealth Marine Areas. The Commonwealth marine area is any part of the sea, including the waters, seabed, and airspace, within Australia's exclusive economic zone and/or over the continental shelf of Australia, that is not State or Northern Territory waters. Commonwealth marine areas are matters of national environmental significance under the EPBC Act.

An action is likely to have a significant impact on the environment in a Commonwealth marine area if there is a real chance or possibility that the action will:

- Result in a known or potential pest species becoming established in the Commonwealth marine area;
- Modify, destroy, fragment, isolate or disturb an important or substantial area of habitat such that an adverse impact on marine ecosystem functioning or integrity in a Commonwealth marine area results;
- Have a substantial adverse effect on a population of a marine species or cetacean including its life cycle (for example, breeding, feeding, migration behaviour, life expectancy) and spatial distribution;
- Result in a substantial change in air quality or water quality (including temperature) which may adversely impact on biodiversity, ecological integrity; social amenity or human health;
- Result in persistent organic chemicals, heavy metals, or other potentially harmful chemicals accumulating in the marine environment such that biodiversity, ecological integrity, social amenity or human health may be adversely affected; or
- Have a substantial adverse impact on heritage values of the Commonwealth marine area, including damage or destruction of an historic shipwreck.

### 2.3.5 Threatened Ecological Communities

One Threatened Ecological Community, the Monsoon Vine Thicket on the Coastal Sand Dunes of Dampier Peninsula, was identified by the PMST search (Figure 3).

**Table 11: Threatened Ecological Communities distances**

TEC	Straight-line distance from Montara
Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula	432 km

#### **Monsoon Vine Thicket on the Coastal Sand Dunes of Dampier Peninsula**

Monsoon vine thicket occurs as semi - deciduous and evergreen vine thicket communities of coastal Holocene sand dunes on the Dampier Peninsula in the Kimberley Region, covering an area of ~2,500 ha from Broome in the south to One Arm Point in the north, and on the northeastern coast of the Peninsula from One Arm Point to Goodenough Bay (DSEWPac 2013). The community is predominantly restricted to the leeward slopes and swales of coastal sand dunes but occasionally found on dune crests and other coastal landforms such as beaches, sand-spit hedlands and storm ridges with intertidal flats (Black et al. 2010).

It represents the most southern occurrences of rainforest type vegetation in WA. The most common canopy forming species are *Bauhinia cunninghamii* (jigal, joomoo), *Celtis philippensis* (goolnji), *Diospyros humilis* (ebony wood), *Exocarpos latifolius* (jarnba, mistletoe tree), *Grewia breviflora* (goolmi, currant/coffee fruit), *Mallotus nesophilus* (yellow ball flower), *Mimusops elengi* (joongoon, mamajen), *Sersalisia sericea* (mangarr), *Terminalia ferdinandiana* (gabiny, gubinge, kabiny) and *Terminalia petiolaris* (blackberry tree, marool, narwulu) (DESWPac 2013).



The extent of the ecological community corresponds to the traditional lands of the Bardi Jawi, Djabera Djabera, Goolaraballoo, Jabirr Jabirr, Nyul Nyul and Yawuru Indigenous people and is of cultural significance. It is listed as Endangered under the EPBC Act (Government of Western Australia 2010; DoEE 2016b) and described in the Approved Conservation Advice for the monsoon vine thickets on the coastal sand dunes of Dampier Peninsula (DSEWPaC 2013). This community is also subject to the Threat abatement plan for disease in natural ecosystems caused by *Phytophthora cinnamomi* (DoE 2014c).

## 2.4 Listed Threatened and Migratory Species

The PMST search (Appendix E) identified 104 Listed Threatened Species (LTS) and 94 Listed Migratory Species (LMS) as having the potential to occur within the EMBA.

The LTS included:

- 28 species of mammals (four marine species relevant to impact assessment);
- Twenty species of reptiles (eight marine species relevant to impact assessment);
- Seven shark species; and
- Thirty-four avifauna species (12 marine or inter-tidal species relevant to impact assessment).

The Listed Migratory species (LMS) included:

- 17 Migratory Marine avifauna;
- 40 Migratory Wetland avifauna; and
- 29 Migratory Marine species.

Sensitive habitat areas such as an aggregation, resting or feeding or known migratory routes for these species are shown as Biologically Important Areas (BIAs). Relevant management for the species such as:

- Recovery plans;
- Conservation advice; or
- Threat abatement plan for the impacts of marine debris on vertebrate marine life (DoEE 2018) are also described below and in Section 5.5 of the EP.

The requirements of the species recovery plans and conservation advices are considered to identify any requirements that may be applicable to the risk assessment.

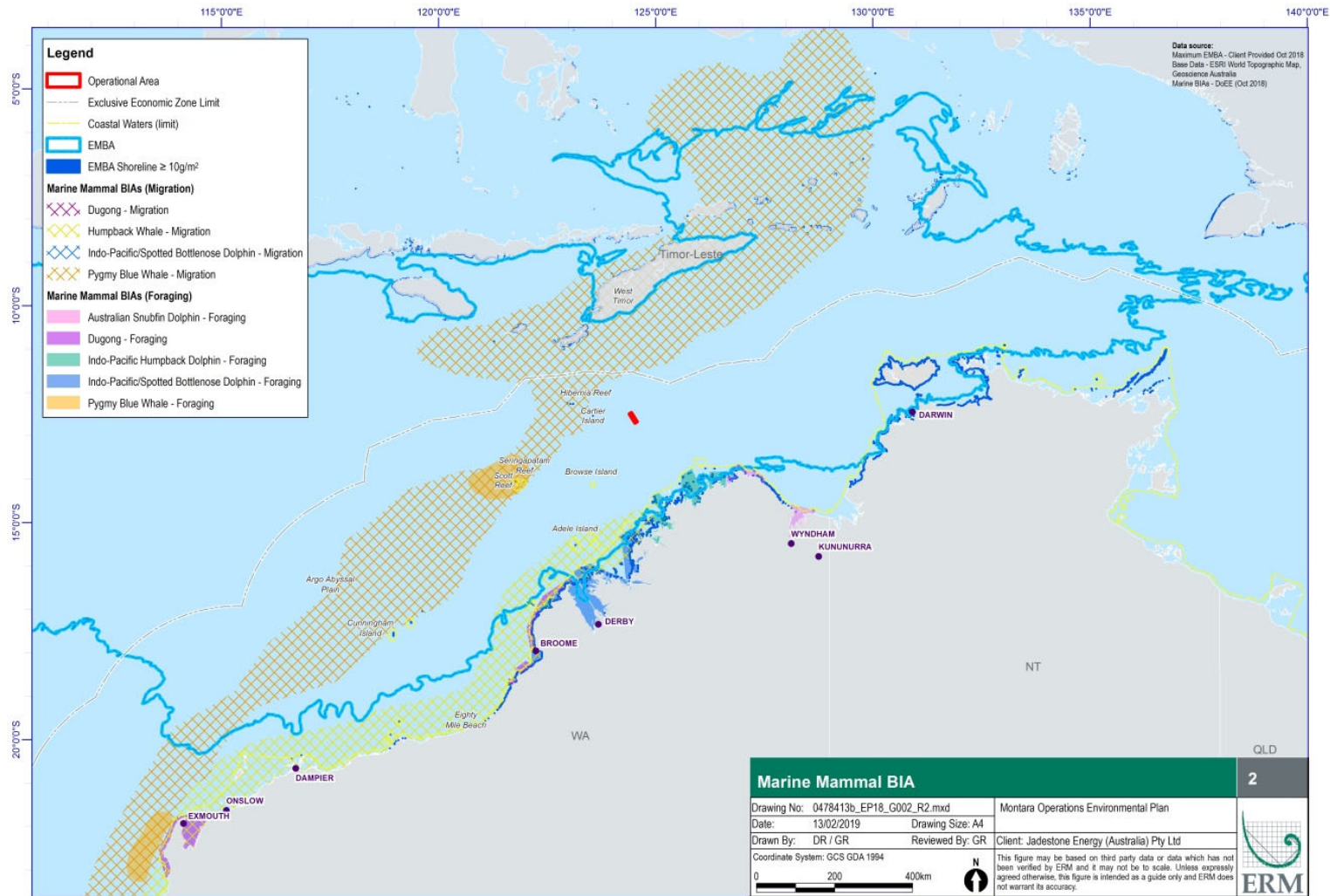
### 2.4.1 Marine Mammals

The region is thought to be an important migratory pathway between feeding grounds in the Southern Ocean and breeding grounds in tropical waters for several cetacean species. Pygmy blue whales (*Balaenoptera musculus*), fin whales (*Balaenoptera physalus*), dwarf minke whales (*Balaenoptera acutorostrata*) and Antarctic minke whales (*Balaenoptera bonaerensis*) may travel through the region on their way to breeding grounds, which are thought to be in deep oceanic waters around the Indonesian Archipelago.

During ambient noise monitoring at the southern (AC/L7) permit area in June–December 2011, numerous cetacean vocalisations were recorded (McPherson et al. 2012). Two species of odontocetes (toothed whales and dolphins) were identified during the first six-months of deployment, false killer whales and common bottlenose dolphins.

Pygmy blue whales (*B. m. breviceuda*) were detected at the nearby Cash-Maple (AC/RL7 block) permit area, which coincided with the timing of the northern and southern migrations (McCauley 2011). Humpback whales were only recorded during two periods in July and August 2011 at the Southern station. The vocalisations of bryde's whales were also detected at the southern permit area at the time of survey. Based on the most recent scientific literature (Cerchio et al. 2015) and re-





**Figure 4: Marine Mammal BIAs**

### **Blue Whale (Endangered/Migratory)**

Blue whales (*Balaenoptera musculus*) are widely distributed throughout the world's oceans. There are two subspecies in the Southern Hemisphere: the southern blue whale (*Balaenoptera musculus intermedia*) and the pygmy blue whale (*Balaenoptera musculus brevicauda*) (DEWHA 2008). In general, the southern blue whale is found south of 60° S and pygmy blue whales are found north of 55° S (DEWHA 2008), making it likely that any blue whales frequenting the waters of the Operational area would be pygmy blue whales.

Blue whale migration is thought to follow deep oceanic routes, although little is known about their precise migration routes (DoEE 2017b). Sea noise loggers set at various locations along the coast of Western Australia have detected a seasonal presence indicating a pattern of annual northbound and southbound migration of pygmy blue whales past Exmouth and the Montebello Islands and locations to the north (McCauley and Jenner 2010). Pygmy Blue whales appear to migrate south from Indonesian waters passing Exmouth through November to late December each year. Observations suggest most Pygmy Blue whales pass along the shelf edge out to water depths of 1,000 m depth contour. The northern migration passes Exmouth over an extended period ranging from April to August (McCauley and Jenner 2010). They are believed to calve in tropical waters in winter and births peak in May to June, however the exact breeding grounds of this species are unknown (Bannister et al. 1996).

The Operational area does not include any recognised blue whale migratory routes or known feeding, breeding or resting areas. However, low numbers of blue whales migrating to and from Indonesian waters may occasionally pass through the Operational area, most likely during the southern migration (October to November) (DoEE 2017b). Ambient noise monitoring conducted for PTTEP AA in and around the Montara field documented the presence of cetacean species over a full 12 month period between December 2010 and December 2011. The data support the well documented seasonal timings of pygmy blue whales in the region, and the low numbers recorded are consistent with the field area being outside the recognised BIAs for this species.

The EMBA overlaps with the pygmy blue whale migratory route BIA off the Kimberley Coast (Figure 4). The pygmy blue whale migratory BIA extends from approximately the south-westernmost point of WA to the northernmost edge of Australian commonwealth waters, north of Scott Reef. Blue whale activities occurring within the area of the BIA overlapping with the EMBA include migration, foraging, and 'distribution'. Possible foraging habitat has been identified in the area around Scott and Seringapatam Reefs.

### **Humpback Whale (Vulnerable/Migratory)**

Humpback whales (*Megaptera novaeangliae*) have a wide distribution, having been recorded from the coastal areas off all Australian states other than the Northern Territory (Bannister et al. 1996). Humpback whales migrate north and south along the eastern and western coasts of Australia from calving grounds in the tropical north to feeding grounds in the Southern Ocean (DoEE 2017b). Peak migration off the north-western coast of Australia occurs from late July to early September. From June to mid-September the inshore waters (landward of the 100 m isobath) between the Lacepede Islands and Camden Sound (approximately 400 km south-west of the Operational area) are used as a calving area for this species (Jenner et al. 2001).

The Operational area is located outside of the recognised humpback whale migratory routes, which are usually within 30 km of the coastline. The EMBA overlaps with the humpback whale BIA identified for breeding and calving at Camden Sound Marine Park, adjacent to the Kimberley coast (Figure 4).

Given the Operational area is situated north of the northernmost point of the humpback whale migration it is considered unlikely that the species will be encountered. Individuals may be encountered within the wider EMBA.

### **Sei Whale (Vulnerable/Migratory)**

Sei whales (*Balaenoptera borealis*) are a cosmopolitan species, found in the waters off all Australian states (DoEE 2017b). The Australian Antarctic waters are important feeding grounds for sei whales, as are temperate, cool waters (DoEE 2017b). The species has also been observed feeding in the Bonney Upwelling area in South Australia, indicating the area as potentially being an important feeding ground.

Breeding in this species is known to occur in tropical and subtropical waters (DoEE 2017b). Currently, the movements and distributions of sei whales are unpredictable and not well documented. However, information suggests that sei whales have the same general pattern of migration as most other baleen whales, although timing is later in the season and such high latitudes are not reached (DoEE 2017b).

Based on the cosmopolitan distribution of the species, sei whales may be encountered in low numbers within the Operational area. Individuals of the species may be encountered within the EMBA, although large numbers are unlikely.

### **Fin Whale (Vulnerable/Migratory)**

Fin Whales (*Balaenoptera physalus*) are found in the waters all around Australia and the Australia Antarctic Territory (DoEE 2017b). The Australian Antarctic waters are also thought to be important feeding grounds for fin whales, while feeding has been observed in the Bonney Upwelling area indicating the area to be of importance as a feeding ground for the species (Morrice et al. 2004). No known mating or calving areas are known from Australian waters. Currently, the migration routes and locations of winter breeding grounds for this species are uncertain (DoEE 2017b).

Based on the cosmopolitan distribution of the species, fin whales may be encountered in low numbers within the Operational area. Individuals of the species may be encountered within the EMBA, although large numbers are unlikely.

### **Bryde's Whale (Migratory)**

Bryde's Whales (*Balaenoptera edeni*) are a cosmopolitan species, found in the waters of all Australian states, including both Christmas and the Cocos Islands (DoEE 2017b). Two forms of Bryde's whale are known: the coastal and offshore form. The coastal form appears to be limited to habitat within the 200 m depth isobar, moving along the coast in response to availability of suitable prey (Best et al. 1984); the offshore form is known in deeper water (500 m to 1,000 m).

Ambient noise monitoring conducted in the Southern, Cash-Maple and Oliver permits by JASCO (2012) over a 12-month period between December 2010 and December 2011 recorded whale calls that were attributed to Bryde's whales year-round at all three permits, with no seasonal cycle observed. These data demonstrate that individuals may be encountered within the Operational area and are also likely to occur within the EMBA.

### **Orca/Killer Whale (Migratory)**

Orcas, or Killer Whales (*Orcinus orca*), are a cosmopolitan species, found in the waters off all Australian states in oceanic, pelagic and neritic regions, in both warm and cold waters. Killer whales are known to make seasonal movements, and are likely to follow regular migratory routes, however little is known about either local or seasonal movement patterns of the species (DoEE 2017b).

Given the lack of known migration routes or areas of significance in the region, the species is not expected to be encountered in either the Operational area or EMBA in significant numbers.

### **Spotted Bottlenose Dolphin (Migratory)**

The spotted bottlenose dolphin (*Tursiops aduncus*) is generally considered to be a warm water subspecies of the common bottlenose dolphin (*Tursiops truncatus*) and known to exist in waters off



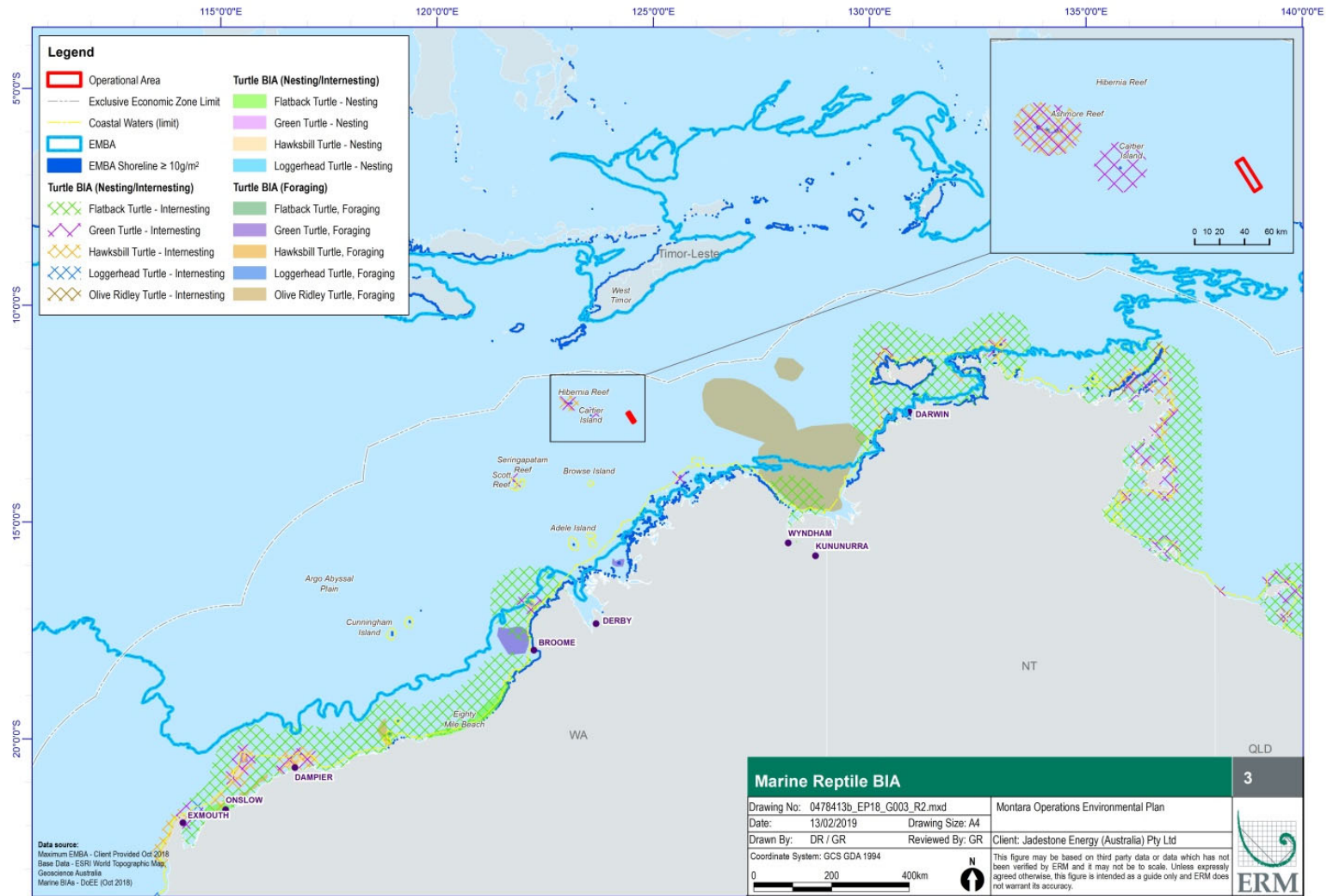


Figure 5: Marine Turtle BIA

## **Turtles**

### **Green Turtle (Vulnerable/Migratory)**

The closest known significant breeding/nesting grounds to the Operational area are the Ashmore Reef and Cartier Island CMRs, approximately 125 and 84 km to the northwest of the Operational area, respectively (Figure 5). Green turtle nesting has also been observed at Cassini Island (RPS 2010a) and the island is recognised as a significant green turtle rookery (Conservation Commission 2010). In WA, the major nesting sites include the Dampier Archipelago, along the Ningaloo and Jurabi Coasts, Thevenard Island and the Barrow-Lowendal-Montebello island complex (DoEE 2017b). In the NT, nesting occurs at Coburg Peninsula and between Nhulunbuy and northern Blue Mud Bay (East Arnhem Land) (DoEE 2017b). Hawksbill turtles are also found in the reserves of Ashmore Reef and Cartier Island where they feed throughout the year (Guinea 1995). Due to the distance from nesting sites and the lack of foraging habitats in the Operational area, only low numbers of hawksbill turtles are expected to be observed, in transit from WA to the NT.

Satellite tracking studies have shown that green turtles migrate between breeding grounds and feeding grounds off the northwest coast (Pendoley 2005). However, due to the water depths the area does not provide foraging habitat.

The EMBA intersects green turtle BIAs at Scott, Ashmore and Cartier Reefs, in the Joseph Bonaparte Gulf, and around Melville Island, with the areas used for foraging, internesting, and nesting. Green turtle BIAs in the region are illustrated in Figure 5.

Sandy Islet at Scott Reef is a green turtle nesting site, with summer months from November through to February being the preferred nesting period (Guinea 2006). While no published literature is available relating to turtle activities around Seringapatam Reef, it can be assumed that no nesting occurs due to the lack of permanent land (e.g. a sandy islet or island). However, turtles are likely to visit the reef system as part of transitory foraging behaviour. It has also been noted that green turtles may feed around Barracouta Shoal based on the proximity of the shoal to Cartier Island (Fugro 2009).

### **Flatback Turtle (Vulnerable/Migratory)**

The flatback turtle (*Natator depressus*) is found in the tropical waters of northern Australia, Papua New Guinea and Irian Jaya. It is the most widely distributed nesting marine turtle species in the Northern Territory (Chatto and Baker 2008), nesting on a wide variety of beach types around the entire coastline. The flatback turtle also nests in the Kimberley Region of Western Australia, with Cape Domett (Bowlay and Whiting 2007) and Lacrosse Island being important nesting areas for the species. The closest nesting sites to the Operational area are approximately 500 km to the south-east (Lacepede Islands).

While flatback turtles make lengthy reproductive migrations, up to 1,300 km from nesting beaches (Limpus et al. 1983), movements are generally restricted to the continental shelf (DoEE 2017b). Flatback turtles nesting within the Pilbara region migrate to their foraging grounds in the Kimberley region along the continental shelf at the end of the nesting season (RPS 2010). Due to their migrations between the Pilbara and the Kimberley regions of WA, individual flatback turtles may transit the Operational area during migration. However, given the distance from known aggregation areas, it is unlikely that significant numbers of flatback turtles will be encountered within the Operational area. Due to the water depths the area does not provide foraging habitat. The species will also be present within the wider EMBA.

The EMBA intersects with flatback turtle BIAs, at the Sahul Shelf, used for foraging, off the West Australia coast, and the internesting BIA, in the coastal waters off Arnhem Land in the Northern Territory (Figure 5).



### **Hawksbill Turtle (Vulnerable/Migratory)**

Hawksbill turtles (*Eretmochelys imbricata*) are found in tropical, subtropical and temperate waters in all oceans of the world. There are no known nesting or breeding areas in or near to the Operational area. In WA, the Dampier Archipelago is an important part of the migration route for hawksbill turtles, as are Scott Reef and the Joseph Bonaparte Gulf. Hawksbill turtles nest all year round in WA, with a peak in October and January (DoEE 2017b).

In WA, the major nesting sites include the Dampier Archipelago, along the Ningaloo and Jurabi Coasts, Thevenard Island and the Barrow-Lowendal-Montebello island complex (DoEE 2017b). In the NT, nesting occurs at Coburg Peninsula and between Nhulunbuy and northern Blue Mud Bay (East Arnhem Land) (DoEE 2017b). Hawksbill turtles are also found in the reserves of Ashmore Reef and Cartier Island where they feed throughout the year (Guinea 1995). Due to the distance from nesting sites and the lack of foraging habitats in the Operational area, only low numbers of hawksbill turtles are expected to be observed, in transit from WA to the NT.

In WA, the Dampier Archipelago is an important part of the migration route for hawksbill turtles, as are Scott Reef and the Joseph Bonaparte Gulf. Hawksbill turtles nest all year round in WA, with a peak in October and January (DoEE 2017b).

The EMBA intersects with hawksbill turtle BIAs at Scott Reef, Ashmore Reef and Cartier Island, and in the coastal waters off Arnhem Land in the Northern Territory (Figure 5).

### **Leatherback Turtle (Endangered/Migratory)**

The Leatherback turtle (*Dermochelys coriacea*) has the widest distribution of any marine turtle, and can be found in tropical, subtropical and temperate waters throughout the world (Marquez 1990). No major centres of nesting activity have been recorded in Australia, although scattered isolated nesting (1-3 nests per annum) occurs in southern Queensland and Northern Territory (Limpus and McLachlin 1994). As such, it is expected that very few leatherback turtles will be encountered in the Operational area. The species is likely to be present within the wider EMBA.

The EMBA intersects with one leatherback turtle BIA, an internesting area, in the waters off Arnhem Land in NT waters (Figure 5).

### **Loggerhead Turtle (Endangered/Migratory)**

The loggerhead turtle (*Caretta caretta*) has a global distribution throughout tropical, sub-tropical and temperate waters (Marquez 1990). The closest known breeding/nesting grounds to the Operational area are found at Muiron Island and the beaches of the Northwest Cape (Baldwin et al. 2003), approximately 1,500 km south-west of the Operational area and outside the EMBA. Loggerhead turtles have been recorded in the reserves of Ashmore Reef (125 km) and Cartier Island (84 km), west-northwest of the Operational area (Guinea 1995). Loggerhead turtles are unlikely to be encountered within the Operational area in significant numbers. This species is likely to be present, in limited numbers, within the wider EMBA.

The EMBA intersects with one loggerhead turtle BIA, a foraging area, on the Sahul Bank, off NT waters (Figure 5).

### **Olive Ridley Turtle (Endangered/Migratory)**

The olive ridley turtle (*Lepidochelys olivacea*) has a circum-tropical distribution, with nesting occurring throughout tropical waters. No concentrated nesting has been found in Australia, although low density nesting occurs along the Arnhem Land coast of the Northern Territory, including the Crocodile, McCluer and Wessel Islands, Grant Island and Cobourg Peninsula (Chatto and Baker 2008). Therefore, Olive Ridley turtles are unlikely to be encountered within the Operational area in significant numbers. This species may be encountered, in limited numbers within the wider EMBA.

The EMBA intersects with a number of olive-ridley turtle BIAs (foraging and interesting areas), the Sahul Bank in the Joseph Bonaparte Gulf, and in NT waters off the Arnhem Land coast (Figure 5).

### **Sea snakes**

#### **Short-nosed Seasnake (critically endangered)**

The short-nosed seasnake (*Aipysurus apraefrontalis*) is listed as critically endangered under the EPBC Act and the Biodiversity Conservation Act 2016. It is a fully aquatic, small snake and is endemic to WA. It has been recorded from Exmouth Gulf, WA to the reefs of the Sahul Shelf, in the eastern Indian Ocean. This species is believed to show strong site fidelity to shallow coral reef habitats in less than 10 m of water, with most specimens having been collected from Ashmore and Hibernia reefs (Minton & Heatwole 1975, Guinea and Whiting 2005).

The species prefers the reef flats or shallow waters along the outer reef edge in water depths to 10 m (McCosker 1975, Cogger 2000). The species has been observed during daylight hours, resting beneath small coral overhangs or coral heads in 1–2 m of water (McCosker 1975). Guinea and Whiting (2005) reported that very few short-nosed seasnakes moved even as far as 50 m away from the reef flat and are therefore unlikely to be expected in high numbers in off shore, deeper waters.

#### **Leaf-scaled Seasnake (critically endangered)**

The leaf-scaled seasnake (*Aprasia rostrate rostrata*) is listed as critically endangered under the EPBC Act and the Biodiversity Conservation Act 2016. It occurs in shallow water (less than 10 m in depth), in the protected parts of the reef flat, adjacent to living coral and on coral substrates (DoE 2014). The species is found only on the reefs of the Sahul Shelf in Western Australia, especially on Ashmore and Hibernia Reefs (Minton and Heatwole 1975). The leaf-scaled seasnake forages by searching in fish burrows on the reef flat (DoE 2014).

### **Fish, Sharks and Rays**

#### **Whale Shark (Vulnerable/Migratory)**

Whale sharks (*Rhincodon typus*) have a broad distribution in tropical and warm temperate seas. The whale shark is a highly migratory fish and only visits Australian waters seasonally (DoEE 2017b). They are known to aggregate at Ningaloo Reef (approximately 1,500 km south-west of the Operational area) between May and June, and in the Queensland Coral Sea (approximately 2,400 km east of the Operational area) between November and December (DoEE 2017b). Neither of these locations are within the EMBA.

The whale shark foraging BIA intersects with the EMBA (Figure 6).

#### **Great White Shark (Vulnerable/Migratory)**

The Great White Shark (*Carcharodon carcharias*) is widely, but sparsely, distributed in all seas, including cold temperate waters, having been recorded from central Queensland around the south coast to north-west WA, with movements occurring between the mainland coast and the 100 m isobath (DoEE 2017b). The species is known to undertake migrations along the WA coast, with individuals occasionally travelling as far north as North West Cape during spring, before returning south for summer (DoEE 2017b). Given a preference for cooler, southern waters inhabited by seals and sea lions, great white sharks are considered unlikely to be encountered in either the Operational area or EMBA. No great white shark BIAs are intersected by the EMBA (Figure 6).

#### **Northern River Shark (Endangered)**

The Northern River Shark (*Glyphis garricki*) is known to inhabit rivers, tidal sections of large tropical estuarine systems, macrotidal embayments, as well as inshore and offshore marine habitats, although adults have only been recorded in marine environments (DoEE 2017b). Limited data suggests that the species displays a preference for highly turbid, tidally influenced waters with fine

muddy substrate. However, the presence of individuals in offshore areas suggests that northern river sharks undertake movements away from rivers and estuaries, and are therefore likely to move between river systems (DoEE 2017b). Given the species' preference for turbid, inshore waters, it is likely that the species will be encountered in the EMBA.

### **Grey Nurse Shark (vulnerable)**

The grey nurse shark (*Carcharias taurus*) is listed as vulnerable under the EPBC Act and the Biodiversity Conservation Act 2016 and may be found within the EMBA. In Australia, the grey nurse shark is now restricted to two populations, one on the east coast from southern Queensland to southern NSW and the other is predominantly found around the southwest coast of WA, but has been recorded on the North West Shelf (DEWHA 2012b, Pogonoski et al. 2002). It is believed that the east and west coast populations do not interact and ongoing research will probably confirm that the populations are genetically different (Last and Stevens 2009).

While it is thought that grey nurse sharks have a high degree of site fidelity, some studies (McCauley 2004) suggest that grey nurse sharks move between different habitats and localities, exhibiting some migratory characteristics. In certain areas grey nurse sharks are vulnerable to localised pressure due to high endemism. The status of the west coast population is poorly understood although they are reported to remain widely distributed along the WA coast and are still regularly encountered, albeit with low and indeterminate frequency (Chidlow et al. 2006).

Grey nurse sharks are often observed hovering motionless just above the seabed, in or near deep sandy-bottomed gutters or rocky caves, and in the vicinity of inshore rocky reefs and islands (Pollard et al. 1996). The species has been recorded at varying depths, but is generally found between 15–40 m (Otway & Parker 2000). Grey nurse sharks have also been recorded in the surf zone, around coral reefs, and to depths of around 200 m on the continental shelf (Pollard et al. 1996). Grey nurse sharks feed primarily on a variety of teleost and elasmobranch fishes and some cephalopods (Gelsleichter et al. 1999, Smale 2005).

### **Dwarf Sawfish (Vulnerable/Migratory)**

The dwarf sawfish (*Pristis clavata*) is listed as vulnerable under the EPBC Act and thought to be restricted to Australia (DoE 2014b). It is also listed as a Priority 1 conservation species in WA. The Australian distribution of the dwarf sawfish is considered to extend across northern Australia and along the Kimberley and Pilbara coasts (Last and Stevens 2009, Stevens et al. 2005). However, the majority of records of dwarf sawfish in WA have come from shallow estuarine waters of the Kimberley region which are believed to be nursery (pupping) areas, with immature juveniles remaining in these areas up until three years of age (Thorburn et al. 2004). Adults are known to seasonally migrate back into inshore waters (Peverell 2007); although it is unclear how far offshore the adults travel as captures in offshore surveys are very uncommon. The species' range is restricted to brackish and salt water (Thorburn et al. 2007).

The recovery plan identifies pupping as known to occur in the King Sound, the Cambridge Gulf and 80 Mile Beach, with pupping likely to occur identified at a number of locations along the Pilbara and Kimberly Plan. Under the associated recovery plan all areas where aggregations of individuals have been recorded displaying biologically important behaviours such as breeding, foraging, resting or migrating are considered critical to the survival of the species unless population data suggests otherwise.

### **Freshwater/Largetooth Sawfish (Vulnerable/Migratory)**

The freshwater, or largetooth, sawfish (*Pristis pristis*) may occur in all large rivers of northern Australia from the Fitzroy River in WA, to the western side of Cape York Peninsula, Queensland, although is mainly confined to the primary channels of large rivers (DoEE 2017b). In northern Australia, this species is thought to be confined to freshwater drainages and the upper reaches of

estuaries, occasionally being found as far as 400 km inland. Few records exist of adults at sea, occurring in fresh or weakly saline water (DoEE 2017b).

Given the species' known distribution individuals are likely to be found within the EMBA.

#### **Green Sawfish (Vulnerable/Migratory)**

In Australian waters, green sawfishes (*Pristis zijsron*) have been recorded in the coastal waters off Broome in WA, around northern Australia to Jervis Bay, NSW (DoEE 2017b). It is unknown whether green sawfish migrate into Australian waters as adults or juveniles from populations outside Australia (DoEE 2017b). This species inhabits muddy bottom habitats and enters estuaries, although it has also been recorded in inshore marine waters, estuaries, river mouths, embankments and along sandy and muddy beaches, usually in shallow waters (DoEE 2017b).

Based on the known distribution of the species, individuals are known to exist within the EMBA.

#### **Shortfin and Longfin Mako Sharks (Migratory)**

The shortfin mako (*Isurus oxyrinchus*) and the longfin mako (*Isurus paucus*) are both offshore epipelagic species found in tropical and warm-temperate waters (DoEE 2017b). Both species occur in Australia in coastal waters off WA, NT, QLD and NSW at depths ranging from shallow coastal waters to at least 500 m (DoEE 2017b). These species may be found within the wider EMBA.

#### **Reef Manta Ray (Migratory)**

The reef manta ray (*Manta alfredi*) is commonly sighted inshore, but also found around offshore coral reefs, rocky reefs and seamounts, tending to inhabit warm tropical or sub-tropical waters (Marshall et al. 2011a). Long-term sighting records of the reef manta ray at established aggregation sites suggest that this species is more resident to tropical waters and may exhibit smaller home ranges, philopatric movement patterns and shorter seasonal migrations than the giant manta ray (Marshall et al. 2011a).

Given the EMBA overlaps with a number of coral and rocky reefs in the region, it is possible the species may be encountered within the EMBA.

#### **Giant Manta Ray (Migratory)**

The giant manta ray (*Manta birostris*) inhabits tropical, marine waters worldwide. In Australia, the species is recorded from south-western WA, around the north coast to the southern coast of New South Wales (Australian Museum 2014). The species is commonly sighted along productive coastlines with regular upwelling, oceanic island groups, particularly offshore pinnacles and seamounts. Nearer to shore the giant manta ray is commonly encountered on shallow reefs, while being cleaned, or is sighted feeding at the surface inshore and offshore. It is also occasionally observed in sandy bottom areas and seagrass beds (Marshall et al. 2011b).

Given the EMBA overlaps with a number of coral and rocky reefs in the region, it is possible that the species may be encountered within the EMBA.

#### **Narrow Sawfish (Migratory)**

Based on the species' habitat preference it is highly unlikely to be found within the Operational area, although may be encountered within certain areas of the EMBA.

#### **Sygnathids**

Three offshore banks assessment surveys (2010, 2011 and 2013) were undertaken to identify and assess the level of impact, if any, to the submerged marine banks in the region of the 2009 Montara oil spill (Heyward et al. 2010, 2011a, 2013). The surveys used Baited Remote Underwater Video Stations (BRUVS) to characterise fish assemblages and included the following shoals/banks in the region: Vulcan Shoal, Barracouta Shoals, Echuca Shoal, Eugene McDermott Shoal, Goeree Shoal,

Heywood Shoal, Shoal 25 and Wave Governor Bank. BRUVS were deployed on the seafloor from the shallowest areas of the shoals to depths of approximately 60 m for at least 60 minutes (Heyward et al. 2011a). No individuals from the Syngnathidae family were reported (Heyward et al. 2010, 2011a, 2013).

**Table 14: Fish, Shark and Ray windows of sensitivity**

Key	Peak times											
	January	February	March	April	May	June	July	August	September	October	November	December
<b>Fish Spawning</b>												
Southern Bluefin Tuna: Spawning	■	■	■	■				■	■	■	■	■
Goldband Snapper: Spawning	■	■	■	■								
Red Emperor: Spawning	■	■	■							■	■	■
<b>Elasmobranchs</b>												
Whale Shark: Foraging							■	■	■	■	■	

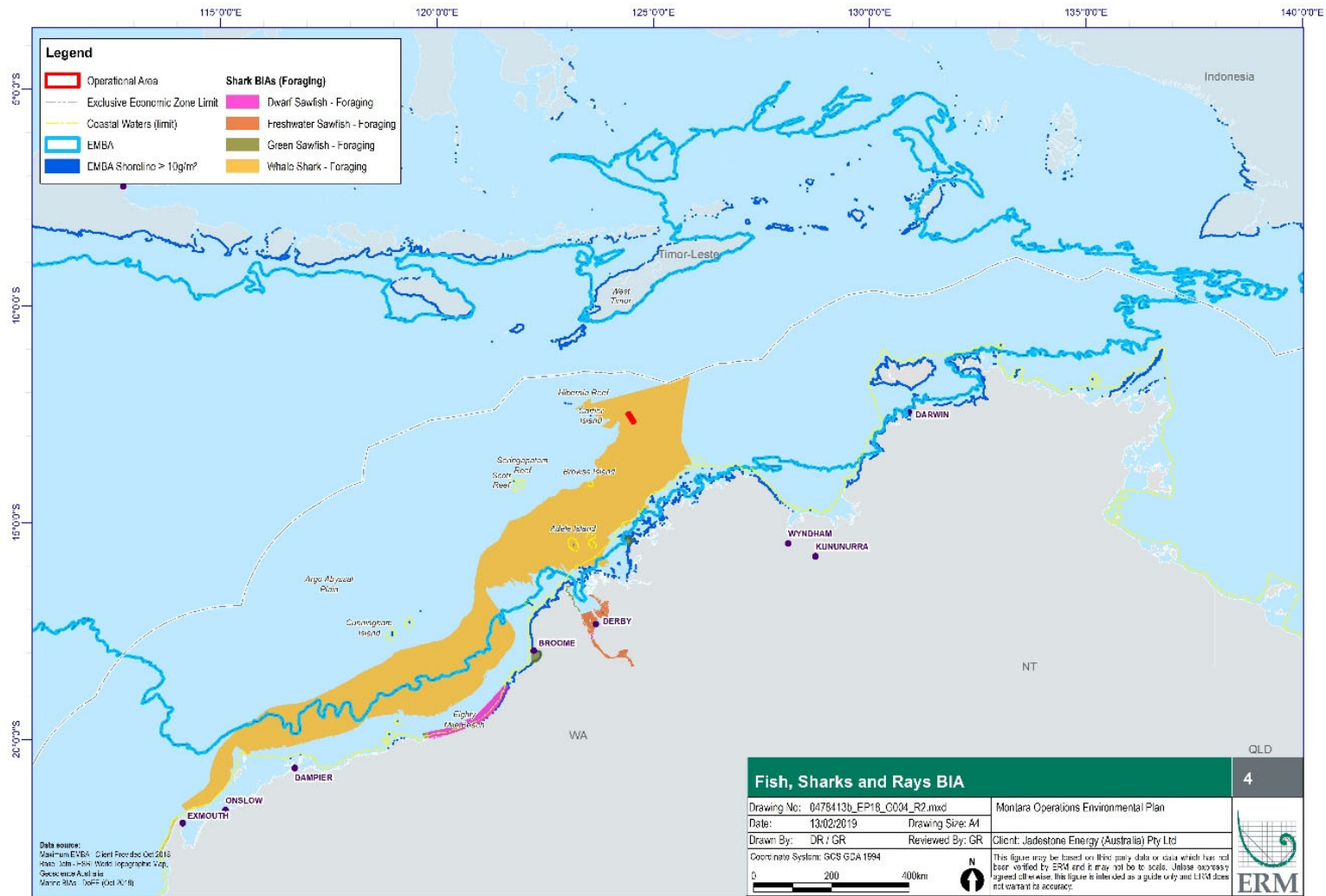


Figure 6: Fish, Sharks and Rays BIAs



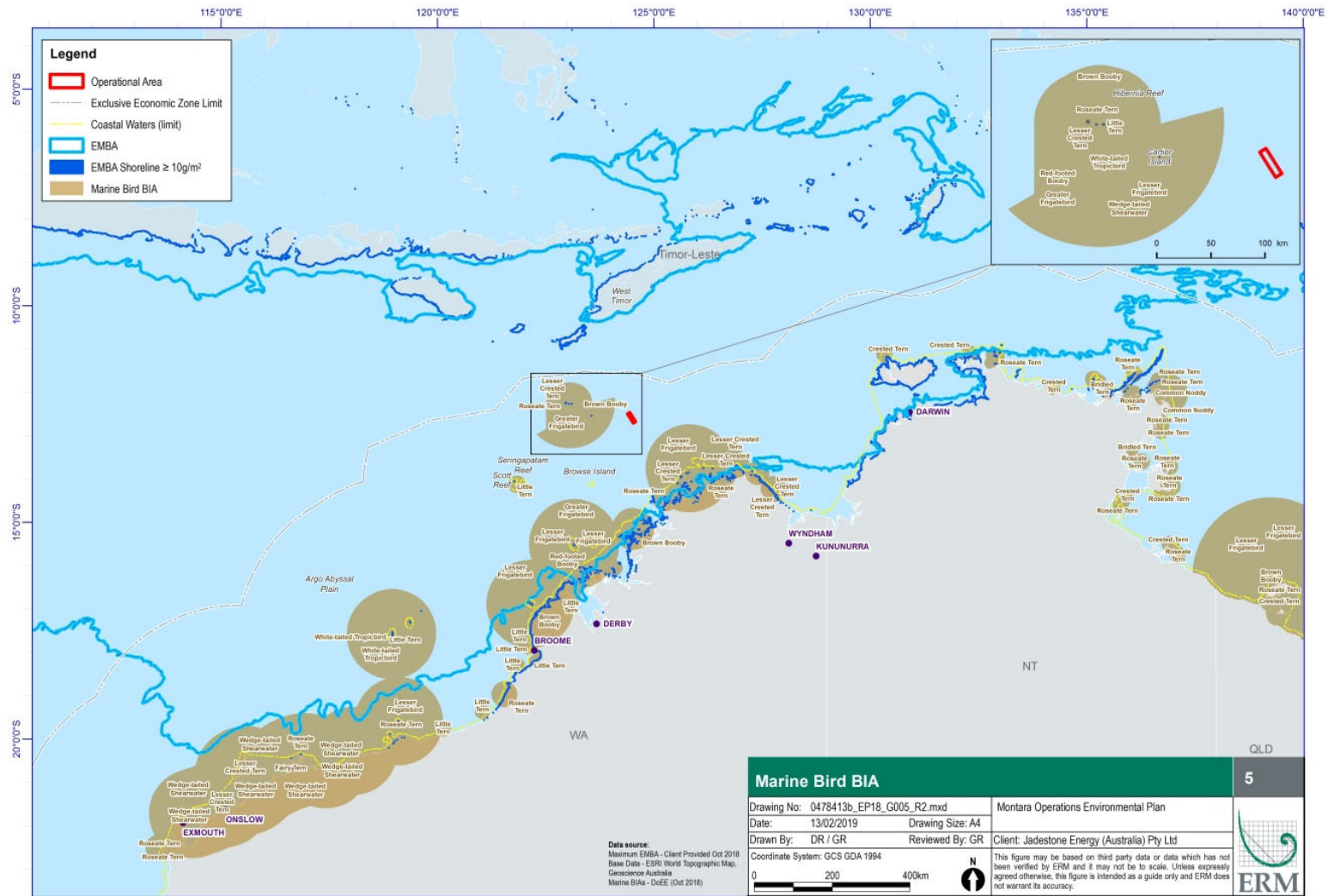


Figure 7: Avifauna BIAs



### **Red Knot (Endangered/Migratory)**

The red knot is a migratory shorebird and the species includes five subspecies, including two found in Australia; *Calidris canutus piersmai* and *Calidris canutus rogersi*. It undertakes long distance migrations from breeding grounds in Siberia, where it breeds during the boreal summer, to the southern hemisphere during the austral summer. Both Australia and New Zealand host significant numbers of red knots during their non-breeding period (Bamford et al. 2008). As with other migratory shorebirds, the species occurs in coastal wetland and intertidal sand or mudflats, where they feed on intertidal invertebrates, especially shellfish (Garnet et al. 2011).

They are likely to be found in these habitats throughout the EMBA, but is unlikely to occur frequently in the Operational area, aside from individuals occasionally transiting through during migrations, due to the lack of emergent habitat.

### **Australian Lesser Noddy (Vulnerable)**

The Australian lesser noddy (*Anous tenuirostris melanops*) is usually only found around its breeding islands including the Houtman Abrolhos Islands and on Ashmore Reef and Barrow Island in WA (DoEE 2017b). This species may forage out at sea or in seas close to breeding islands and fringing reefs (Johnstone and Storr 1998; Storr et al. 1986; Whittell 1942). Given the distribution of the species and the breeding population at nearby Ashmore Reef and Cartier Island, this species may be present in the Operational area, although only in low numbers. Based on known distribution and the location of rookeries the species is known to occur within the EMBA.

### **Curlew Sandpiper (Critically Endangered/Migratory)**

In Australia, curlew sandpipers (*Calidris ferruginea*) occur around the coasts and are also quite widespread inland. In WA, they are widespread around coastal and subcoastal plains from Cape Arid to south-west Kimberley, albeit rarely encountered in the north-west of the Kimberley region (DoEE 2017b). Curlew sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, as well as around non-tidal swamps, lakes and lagoons near the coast, occurring in both fresh and brackish waters (DoEE 2017b).

Given the offshore location of activities and habitat preferences, the species is unlikely to be encountered within the Operational area other than occasional numbers during migration, although may be present within the EMBA.

### **Eastern Curlew (Critically Endangered/Migratory)**

Within Australia, the eastern curlew (*Numenius madagascariensis*) has a primarily coastal distribution. They have a continuous distribution from Barrow Island and Dampier Archipelago in WA, through the Kimberley and along the NT, Queensland, and NSW coasts and the islands of Torres Strait. They are patchily distributed elsewhere.

The species nests in the northern hemisphere, from early May to late June and does not breed in Australia. During the non-breeding season in Australia, the eastern curlew is most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats (TSSC 2015). Given the offshore location of activities and habitat preferences, the species is unlikely to be encountered within the Operational area other than occasional numbers during migration, although may be present within the EMBA.

### **Abbott's Booby (Endangered/Migratory)**

In Australia, Abbott's booby (*Papasula abbotti*) is only found on Christmas Island, where it nests in tall rainforest trees. It is a pelagic feeding species, spending long periods at sea and often foraging hundreds of kilometres from land (Olsen 2001). Given the offshore location of activities and habitat preferences, the species is may be present foraging within the Operational area and EMBA.

### **Great Knot (Critically Endangered, Migratory)**

The great knot is a migratory shorebird with a global distribution, breeding in north-east Siberia and spending the non-breeding season along coasts from Arabia to Australia. Non breeding birds migrate to inlets, bays, harbours, estuaries and lagoons with large intertidal mud and sand flats where they feed on bivalves, gastropods, crustaceans and other invertebrates (Higgins & Davies 1996 in Garnet *et al.* 2011).

### **Western Alaskan Bar tailed Godwit (Vulnerable) and Northern Siberian Bar tailed Godwit (Critically Endangered)**

Two subspecies of the bar-tailed godwit exist, as determined by their breeding locations in Siberia and Alaska (Bamford *et al.* 2008). Non-breeding birds migrate to the coasts of Australia. The western Alaskan subspecies occurs especially on the north and east coasts of Australia whilst the northern Siberian subspecies occurs especially along the coasts of north Western Australia (DoEE 2017b).

Non breeding birds are found on muddy coastlines, estuaries, inlets, man-grove-fringed lagoons and sheltered bays, feeding on annelids, bivalves and crustaceans (Higgins and Davies 1996 in Garnet *et al.* 2011).

### **Southern Giant-Petrel (Endangered, Migratory)**

The southern giant petrel is a highly migratory bird with a large natural range. This species occurs from Antarctic to subtropical waters and breeds on the Antarctic continent, peninsular and islands and on subantarctic islands and South America. Breeding occurs annually between August and March (DoEE 2017a).

The National Conservation Values Atlas (DoEE 2017b) and the National Recovery Plan for Threatened Albatrosses and Giant Petrels 2011-2016 (DSEWPaC 2011) do not identify any BIAs for this species in the area from Busselton to the Northern Territory border.

### **Round Island Petrel (Critically Endangered)**

In Australia, this species has only been recorded on North Keeling Island, where it may breed (DEH, 2003). There is concern about the future survival of the Round Island Petrel in Australia. They nest in sandy areas on the ground, sheltered under shrubs. Their breeding season is usually between February and July. The Round Island Petrel usually only visits land to breed. At sea, they generally glide close to the surface of the water, only occasionally flapping their wings. They take food from near the surface of the sea.

### **Australian Painted Snipe (Endangered)**

The Australian painted snipe has been recorded at wetlands in all states of Australia (DoE 2014). The Australian painted snipe generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical sites include those with rank emergent tussocks of grass, sedges, rushes or reeds, or samphire; often with scattered clumps of lignum *Muehlenbeckia* or canegrass or sometimes tea-tree (*Melaleuca*). The Australian painted snipe sometimes utilises areas that are lined with trees, or that have some scattered fallen or washed-up timber (DoE 2014).

### **Australian Fairy Tern (Vulnerable)**

The fairy tern is distributed in a large geographic range between Australia, New Zealand and New Caledonia. Three subspecies have been identified, one of which is found in Australia. The Australian fairy tern occurs along the coasts of Victoria, Tasmania, South Australia and Western Australia; occurring as far north as the Dampier Archipelago (DoEE 2017a). The subspecies has been found in embayments of a variety of habitats including offshore, estuarine or lacustrine islands, wetlands and mainland coastline (Higgins & Davies 1996 in DoE 2014b, Lindsey 1986).

Australian fairy terns nest on sheltered sandy beaches, spits and banks above the high tide line and below vegetation. The Australian fairy tern breeds from August to February depending on the location of the breeding colony (Higgins & Davies 1996 in DoEE 2017a). They generally nest in small colonies of up to 100

birds, although larger colonies of more than 1400 pairs have been reported in Western Australia (Hill *et al.* 1988).

The National Conservation Values Atlas (DoEE 2017b) identifies the vicinity of the lower north-west coast (north to Dampier Archipelago) and west coast (south to Peel inlet) as BIAs for foraging. Biologically important breeding areas were also identified scattered along the coast between Shark Bay and the Pilbara.

### **Common Noddy (Migratory)**

In Australia, the common noddy (*Anous stolidus*) occurs mainly in oceanic waters off the Queensland coast, although is also known from the north-west and central WA coast. The species is also rarely encountered off the coast of the NT, where only one breeding location of approximately 100-130 birds is documented (DoEE 2017b). During the breeding season, the species usually occurs on, or near islands, on rocky islets and stacks with precipitous cliffs, or on shoals or cays of coral or sand. During the non-breeding period, the species occurs in groups throughout the pelagic zone (DoEE 2017b).

Based on the distribution and habitat preferences the species may be encountered within the Operational area, and occurs within the EMBA.

### **Streaked Shearwater (Migratory)**

The streaked shearwater (*Calonectris leucomelas*) is usually found over pelagic waters, and is known to breed on the coast and offshore islands mainly around Japan and Korea (Ochi *et al.* 2010). The streaked shearwater migrates south during winter to Australia (Birdlife International 2015). The species does not breed in Australia. Streaked shearwaters are known to forage in areas of high concentrations of subsurface predators (e.g. tuna and dolphins) in tropical oceans during non-breeding periods (Yamamoto *et al.* 2010). Given the distribution of streaked shearwaters, this species may be present in the Operational area, albeit in low numbers, and will occur within the EMBA.

### **Lesser Frigatebird (Migratory)**

The lesser frigatebird (*Fregata ariel*) is considered the most common and widespread frigatebird over Australian seas (Lindsey 1986). They are commonly found in tropical seas, breeding on remote islands (Marchant and Higgins 1990). A BIA has been identified for this species at Ashmore Reef and Cartier Island to highlight breeding and foraging behaviours in the area (DoEE 2017b). The Operational area does not overlap with this BIA, however the BIA overlaps with the wider EMBA (Figure 7). Breeding is known to occur between March and September.

Given its distribution and the large breeding population at nearby Ashmore Reef and Cartier Island, this species may be encountered within the Operational area and will be present within the EMBA.

### **Great Frigatebird (Migratory)**

Great frigatebirds (*Fregata minor*) are found in tropical waters globally. A BIA has been identified at Ashmore Reef and Cartier Island for the species to highlight breeding and foraging behaviours in the area (DoEE 2017b). The Operational area does not overlap with this BIA, however the BIA overlaps with the EMBA (Figure 7). Breeding is known to occur between May to June and in August (DoEE 2017b). Given the distribution of the species and its low population in nearby Ashmore Reef and Cartier Island, this species may be present in the Operational area in low numbers, and will be present within the EMBA.

### **Common Sandpiper (Migratory)**

The common sandpiper (*Actitis hypoleucos*) is a small, migratory species with a very large range through which it undertakes annual migrations between breeding grounds in the northern hemisphere (Europe and Asia) and non-breeding areas in the Asia-Pacific region (Bamford *et al.* 2008). The species congregates in large flocks and forages in shallow waters and tidal flats between spring and autumn. Specific critical habitat in Australia has not been identified due to the species' broad distribution (Bamford *et al.* 2008).

The common sandpiper may be present in coastal wetland and intertidal sand or mudflats throughout the wider EMBA, but is unlikely to occur in the Operational area, aside from individuals occasionally transiting through during migrations, due to the lack of emergent habitat.

### Sharp-tailed Sandpiper (Migratory)

The sharp-tailed sandpiper (*Calidris acuminata*) is a migratory wading shorebird and undertakes long distance seasonal migrations between breeding grounds in the northern hemisphere and over-wintering areas in the southern hemisphere (Bamford et al. 2008). The species may occur in Australia between spring and autumn. The species is unlikely to occur within the Operational area due to the lack of suitable habitat, but may occur seasonally in coastal wetland and intertidal sand or mudflats throughout the wider EMBA.

### Pectoral Sandpiper (Migratory)

The pectoral sandpiper (*Calidris melanotos*) breeds in the northern hemisphere during the boreal summer, before undertaking long distance migrations to feeding grounds in the southern hemisphere (Bamford et al. 2008). The species occurs throughout mainland Australia between spring and autumn. The pectoral sandpiper prefers coastal and near-coastal environments such as wetlands, estuaries and mudflats.

Given the species' preferred habitat the pectoral sand piper is not expected to occur within the Operational area, but is expected to occur in suitable habitats within the wider EMBA.

#### 2.4.4 Listed Marine Species

A total of 179 Listed Marine Species are either likely to, or may, occur within the EMBA, including:

- 73 avifauna species;
- 31 cetacean species;
- 1 mammal species;
- 56 fish species; and
- 39 reptile species.

## 2.5 Others Matters Protected by the EPBC

### 2.5.1 Commonwealth Land

The EMBA intersect with 37 Commonwealth land sites, including:

- 25 Defence sites.

### 2.5.2 Commonwealth Heritage Places

Four natural Commonwealth Heritage Places are found in the EMBA (Table 16). These locations are Marine Parks and are discussed in previous MNES sections.

**Table 16: Commonwealth Heritage Place distance**

Commonwealth Heritage Place	Straight-line distance from Montara
Ashmore Reef National Nature Reserve	125 km
Christmas Island Natural Areas	2,077 km
Mermaid Reef – Rowley Shoals	712 km
Scott Reef and Surrounds – Commonwealth Area	321 km

### 2.5.3 Whales and Other Cetaceans

The Protected Matters search determined that 31 cetacean species or their habitat, may occur within the EMBA. Threatened species of whales and cetaceans occurring in the broader EMBA are discussed in Section 2.2.

#### 2.5.4 Australian Marine Parks (AMPs)

Fourteen Australian Marine Parks (AMPs) exist within the EMBAs (Table 17 and Figure 8).

Marine parks are managed under management plans which provide the rules about what activities can and cannot occur within marine park zones. Petroleum titleholders must ensure that their offshore environment plans are consistent with the zoning and rules that apply to mining operations in marine parks, as described in the management plans. They must also ensure that impacts on the representative values of the parks will be of an acceptable level and managed to as low as reasonably practicable (ALARP) (NOPSEMA 2018). A summary of conservation values and management principles for marine parks found within the EMBAs is provided in Table 18.

**Table 17: Australian Marine Parks within the EMBAs**

Name	Straight-line distance from Montara
Cartier Island AMP	84 km
Kimberley AMP	108 km
Ashmore Reef AMP	125 km
Oceanic Shoals AMP	162 km
Joseph Bonaparte Gulf AMP	409 km
Argo-Rowley Terrace AMP	464 km
Roebuck AMP	637 km
Mermaid Reef AMP	700 km
Eighty Mile Beach AMP	736 km
Arafura AMP	900 km
Arnhem AMP	979 km
Dampier AMP	1,125 km
Montebello AMP	1,224 km
Wessel AMP	1,354 km

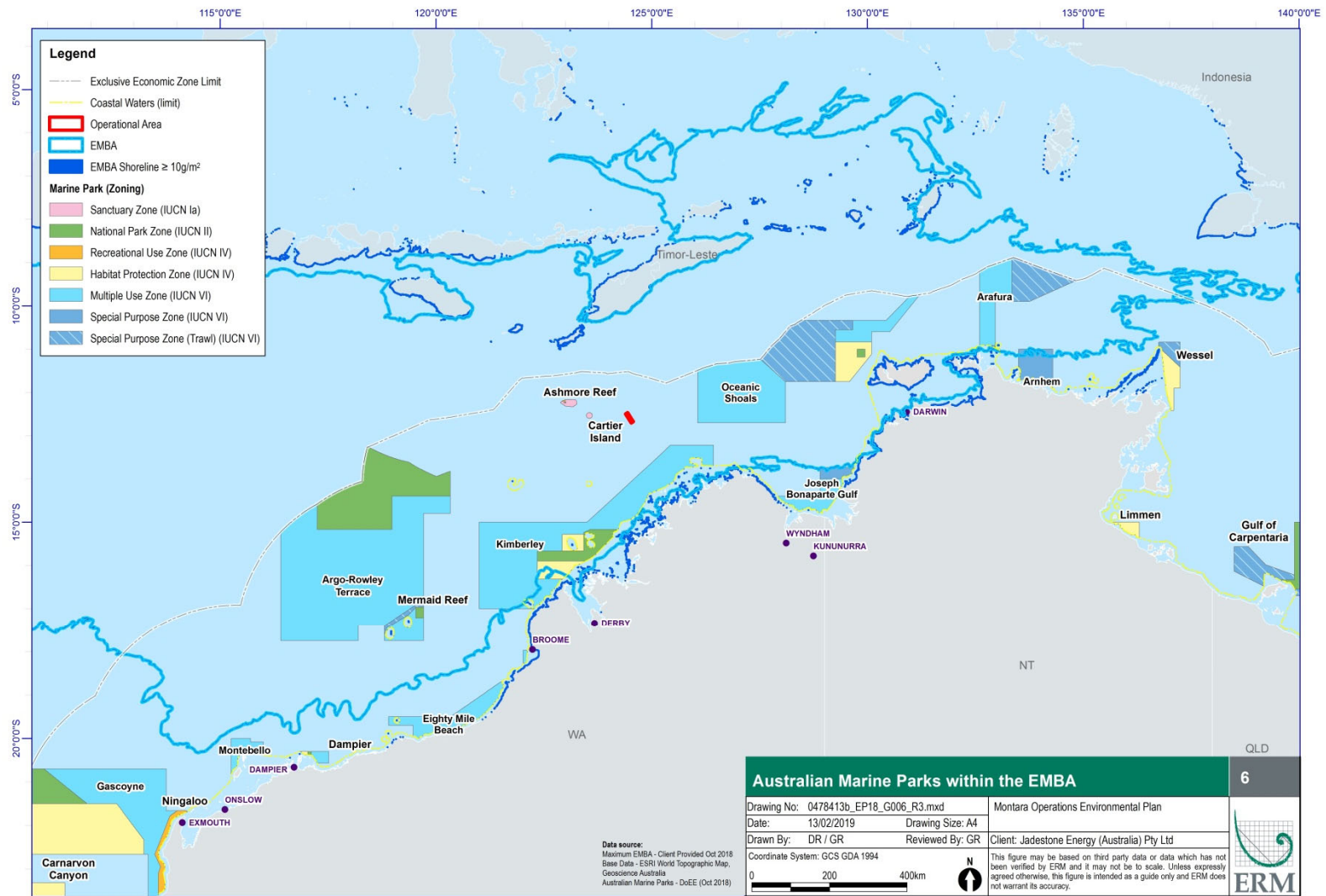


Figure 8: Australian Marine Parks within the EMBA

**Table 18: Description of Australian Marine Parks within the EMBA**

Australian Marine Park	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
Ashmore Reef	<ul style="list-style-type: none"> <li>- Atoll-like structure with three low vegetated islands, sandbanks, lagoon areas, and surrounding reef</li> <li>- largest of only three emergent oceanic reefs present in the north-eastern Indian Ocean</li> <li>- Only oceanic reef in the region with vegetated islands</li> <li>- The Ashmore Reef Ramsar site is located within the boundary of the Marine Park. The site was listed under the Ramsar Convention in 2002 (site 1220) and is a wetland of international importance under the EPBC Act</li> <li>- Reef covers an area of 227 km<sup>2</sup></li> <li>- Encompasses ecosystems, habitats and communities associated with the North-West Shelf, Timor Province, and emergent oceanic reefs</li> <li>- World's highest recorded abundance and diversity of sea snakes (DSEWPaC 2012c)</li> <li>- Important biological stepping stone facilitating transport of biological material to the reef systems along the WA coast</li> <li>- Critical nesting and inter-nesting habitat for green turtles on all three islands (DoE 2015a)</li> <li>- Moderate nesting habitat for hawksbill turtles (Whiting and Guinea 2005; Guinea 2013)</li> <li>- Low nesting activity by loggerhead turtles (single report of nesting on West Island; Whiting and Guinea 2005)</li> <li>- Large and significant feeding populations of green, hawksbill and loggerhead turtles occur around the reefs</li> <li>- Supports a range of pelagic and benthic marine species</li> <li>- Seagrass supports a small dugong population of less than 50 individuals that breeds and feeds around the reef (Whiting and Guinea 2005)</li> <li>- Reef is highly diverse, particularly for corals and molluscs, supporting the highest number of coral species of any reef off the west Australian coast (DSEWPaC 2012)</li> </ul>	<p>Sanctuary (1a)</p> <p>Recreational (IV)</p>	<p>North-west Marine Parks Network Management Plan (DoNP 2018a)</p> <p>Sanctuary Zone (IUCN category Ia)—managed to conserve ecosystems, habitats and native species in as natural and undisturbed a state as possible</p> <p>The zone allows only authorised scientific research and monitoring</p> <p>Emergency response permitted</p>

Australian Marine Park	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
	<ul style="list-style-type: none"> <li>- Migratory pathway for pygmy blue whales</li> <li>- Islands support some of the most important seabird rookeries on the North West Shelf, including colonies of bridled terns, common noddies, brown boobies, eastern reef egrets, frigatebirds, tropicbirds, red-footed boobies, roseate terns, crested terns and lesser crested terns (DoEE 2018c)</li> <li>- Important seabird rookery and staging/feeding areas for many migratory seabirds, including 43 species listed on one or both of the China– Australia Migratory Bird Agreement (CAMBA) and the Japan– Australia Migratory Bird Agreement (JAMBA)</li> <li>- Cultural and heritage sites including Indonesian artefacts and grave sites</li> <li>- Two KEFs: Ashmore Reef and Cartier Island and surrounding Commonwealth waters and Continental Slope Demersal Fish Communities</li> <li>- Subject to the Memorandum of Understanding between Australia and Indonesia (MoU Box)</li> <li>- Indigenous Australians: 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. At the commencement of this plan there is limited information about the cultural significance of this Marine Park</li> <li>- Indonesian The Marine Park contains Indonesian artefacts and grave sites and Ashmore lagoon is still accessed as a rest or staging area for traditional Indonesian fishers travelling to and from fishing grounds within the MoU Box</li> <li>No international or national heritage listings apply to the Marine Park at commencement of the management plan (DoNP 2018a)</li> <li>- Commonwealth heritage Ashmore Reef was listed on the Commonwealth Heritage List in 2004, meeting Commonwealth heritage listing criteria A, B and C</li> <li>Tourism, recreation and scientific research are important activities in the Marine Park. These activities contribute to the wellbeing of regional communities and the prosperity of the nation</li> </ul>		



Australian Marine Park	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
Cartier Island	<ul style="list-style-type: none"> <li>- The Marine Park includes an unvegetated sand island (Cartier Island), mature reef flat, a small, submerged pinnacle (Wave Governor Bank), and two shallow pools to the north-east of the island</li> <li>- Covers an area of 172 km<sup>2</sup></li> <li>- Encompasses ecosystems, habitats and communities associated with the Timor Province (Director of National Parks 2018a)</li> <li>- Internationally significant for its abundance and diversity of sea snakes (DSEWPac 2012c)</li> <li>- Important biological stepping stone facilitating the transport of biological material to the reef systems along the WA coast</li> <li>- Large and significant populations of green, hawksbill and loggerhead turtles occur around the reefs (interesting and feeding habitat), with a significant population of nesting green turtles (DSEWPac 2012c)</li> <li>- Important seabird rookery and staging/feeding areas for many migratory seabirds</li> <li>- Supports colonies of bridled terns, common noddies, brown boobies, eastern reef egrets, frigatebirds, tropicbirds, red-footed boobies, roseate terns, crested terns and lesser crested terns (DoE 2015c)</li> <li>- Supports a range of pelagic and benthic marine species</li> <li>- High diversity and abundance of hard and soft corals, gorgonians (sea fans), sponges and a range of encrusting organisms</li> <li>- Reef crests are generally algal dominated</li> <li>- Reef flats feature ridges of coral rubble and large areas of seagrass (Director of National Parks 2018a)</li> <li>- Foraging habitat for whale sharks (DoEE 2018c)</li> <li>- Two KEFs: Ashmore Reef and Cartier Island and surrounding Commonwealth waters and Continental Slope Demersal Fish Communities</li> <li>- Cultural and heritage site of the <i>Ann Millicent</i> historic shipwreck</li> <li>- Subject to the Memorandum of Understanding between Australia and Indonesia (MoU Box)</li> <li>- Sea country is valued for Indigenous cultural identity, health and wellbeing.</li> </ul>	Sanctuary Zone (1a)	<p>Sanctuary Zone (IUCN category 1a)—managed to conserve ecosystems, habitats and native species in as natural and undisturbed a state as possible.</p> <p>The zone allows only authorised scientific research and monitoring.</p> <p>DoNP (2018a)</p>

Australian Marine Park	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
	<p>Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. At the commencement of the management plan (DoNP 2018 a), there is limited information about the cultural significance of this Marine Park.</p> <ul style="list-style-type: none"> <li>- Scientific research is an important activity in the Marine Park</li> </ul>		
Oceanic Shoals	<ul style="list-style-type: none"> <li>- Covers an area of 72,000 km<sup>2</sup></li> <li>- Examples of the ecosystems of the Northwest Shelf Transition Province and the Timor Transition Province</li> <li>- Important interbreeding area for flatback and olive ridley turtles</li> <li>- Important foraging area for loggerhead and olive ridley turtles (DoEE 2018c)</li> <li>- BIAs include foraging and interbreeding habitat for marine turtles, particularly the threatened flatback turtle and olive ridley turtle</li> <li>- Four KEFs: carbonate bank and terrace system of the Van Diemen Rise; carbonate banks of the Joseph Bonaparte Gulf; pinnacles of the Bonaparte Basin; and shelf break and slope of the Arafura Shelf</li> </ul>	National Park (II) Multiple Use (VI) Habitat Protection (IV) Special Purpose [Trawl] (VI)	<p>The objective of the National Park Zone (II) is to provide for the protection and conservation of ecosystems, habitats and native species in as natural a state as possible</p> <p>The objective of the Multiple Use Zone (VI) is to provide for ecologically sustainable use and the conservation of ecosystems, habitats and native species</p> <p>DoNP (2018a)</p>
Argo-Rowley Shoals	<ul style="list-style-type: none"> <li>- Covers an area of 146,099 km<sup>2</sup></li> <li>- Important foraging areas for migratory seabirds and the endangered loggerhead turtle (DoE 2016a)</li> <li>- Important area for sharks, which are found in abundance around the Rowley Shoals relative to other areas in the region (DoE 2016a)</li> <li>- Provides protection for the communities and habitats of the deeper offshore waters of the region in depth ranges from 220 m to over 5,000 m</li> <li>- Provides connectivity between the existing Mermaid Reef Marine National Nature Reserve and reefs of the WA Rowley Shoals Marine Park and the deeper waters of the region</li> <li>- 2 KEFs: The canyons linking the Argo Abyssal Plain with the Scott Plateau and Mermaid Reef and the Commonwealth waters surrounding Rowley Shoals</li> <li>- 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. At the commencement of the management plan (DoNP 2018a) there is limited information about the cultural</li> </ul>	Multiple Use (VI) National Park (II) Special Purpose [Trawl] (VI)	<p>Multiple Use Zone (IUCN category VI)—managed to allow ecologically sustainable use while conserving ecosystems, habitats and native species. The zone allows for a range of sustainable uses, including commercial fishing and mining where they are consistent with park value.</p> <p>The objective of the Special Purpose Zone (Trawl) (VI) is to provide for ecologically sustainable use and the conservation of ecosystems, habitats and native species, while applying special purpose management arrangements for specific activities.</p> <p>The objective of the National Park Zone (II) is to provide for the protection and conservation of ecosystems, habitats and native species in as natural a state as possible.</p> <p>DoNP (2018a)</p>

Australian Marine Park	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
	<p>significance of this Marine Park</p> <ul style="list-style-type: none"> <li>- Commercial fishing and mining are important activities in the Marine Park. These activities contribute to the wellbeing of regional communities and the prosperity of the nation</li> <li>- No international, Commonwealth or national listings apply to the Marine Park</li> <li>- Historic shipwrecks: The Marine Park contains two known shipwrecks listed under the <i>Historic Shipwrecks Act 1976: Alfred</i> (wrecked in 1908) and <i>Pelsart</i> (wrecked in 1908)</li> </ul>		
Kimberley	<ul style="list-style-type: none"> <li>- Covers an area of 74,500 km<sup>2</sup></li> <li>- The Wunambal Gaambera, Dambimangari, Bardi Jawi and the Nyul Nyul people's sea country extends into the Kimberley Marine Park and supports key cultural values and future socio-economic opportunities</li> <li>- Provides connectivity between deeper offshore waters, and the inshore waters of the adjacent WA North Kimberley Marine Park and Lalang-garram/Camden Sound Marine Park</li> <li>- Breeding and foraging habitat for seabirds</li> <li>- Internesting and nesting habitat for marine turtles</li> <li>- Breeding, calving and foraging habitat for inshore dolphins</li> <li>- Calving, migratory pathway and nursing habitat for humpback whales</li> <li>- Migratory pathway for pygmy blue whales</li> <li>- Foraging habitat for dugong</li> <li>- Foraging habitat for whale sharks</li> <li>- Adjacent to important foraging and pupping areas for sawfish and important nesting sites for green turtles (DoE 2016a)</li> <li>- 2 KEFs: the ancient coastline at the 125-m depth contour and continental slope demersal fish communities</li> <li>- No international, Commonwealth or national heritage listings apply to the Marine Park at commencement of the management plan (DoNP 2018a), however the Marine Park is adjacent to the national heritage place of The West Kimberley</li> <li>- Historic shipwrecks</li> </ul>	<p>Multiple Use (VI)</p> <p>Habitat Protection (IV)</p> <p>National Park (II)</p>	<p>Multiple Use Zone (IUCN category VI)—managed to allow ecologically sustainable use while conserving ecosystems, habitats and native species. The zone allows for a range of sustainable uses, including commercial fishing and mining where they are consistent with park value</p> <p>The objective of the Habitat Protection Zone (IV) is to provide for the conservation of ecosystems, habitats and native species in as natural a state as possible, while allowing activities that do not harm or cause destruction to seafloor habitats.</p> <p>The objective of the National Park Zone (II) is to provide for the protection and conservation of ecosystems, habitats and native species in as natural a state as possible</p> <p>DoNP (2018a)</p>

Australian Marine Park	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
	<p>The Marine Park contains more than 40 known shipwrecks listed under the <i>Historic Shipwrecks Act 1976</i></p> <ul style="list-style-type: none"> <li>- Tourism, commercial fishing, mining, recreation, including fishing, and traditional use are important activities in the Marine Park. These activities contribute to the wellbeing of regional communities and the prosperity of the nation</li> </ul>		
Arafura	<ul style="list-style-type: none"> <li>- Covers an area of 22,924 km<sup>2</sup></li> <li>- Examples of the ecosystems of the Northern Shelf Province and the Timor Transition Province</li> <li>- Important internesting area for flatback, green, hawksbill and olive ridley turtles</li> <li>- Important foraging habitat for breeding aggregations of the migratory roseate tern (DoNP 2018b)</li> <li>- One KEF: Tributary Canyons of the Arafura Depression</li> </ul>	Multiple Use (IV), Special Purpose (VI [Trawl]) and Special Purpose (VI)	<p>Multiple Use Zone (IUCN category VI)—managed to allow ecologically sustainable use while conserving ecosystems, habitats and native species. The zone allows for a range of sustainable uses, including commercial fishing and mining where they are consistent with park value</p> <p>The objective of the Special Purpose Zone (Trawl) (VI) is to provide for ecologically sustainable use and the conservation of ecosystems, habitats and native species, while applying special purpose management arrangements for specific activities</p> <p>The objective of the Special Purpose Zone (IUCN VI) is to protect the area with sustainable use of its natural resources and managed mainly for the sustainable use of natural ecosystems</p> <p>Environment Australia (2002) DoNP (2018b)</p>
Mermaid Reef	<ul style="list-style-type: none"> <li>- Covers an area of 540 km<sup>2</sup></li> <li>- National and international significance due to its pristine character, coral formations, geomorphic features and diverse marine life</li> <li>- Key area for over 200 species of hard corals and 12 classes of soft corals with coral formations in pristine condition</li> <li>- Important areas for sharks including the grey reef shark, the whitetip reef shark and the silvertip whaler</li> <li>- Important foraging area for marine turtles</li> <li>- Important area for toothed whales, dolphins, tuna and billfish</li> <li>- Important resting and feeding sites for migratory seabirds</li> </ul>	National Park (II)	<p>The objective of the National Park Zone (II) is to provide for the protection and conservation of ecosystems, habitats and native species in as natural a state as possible</p> <p>Environment Australia (2002) DoNP (2018a)</p>

Australian Marine Park	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
Joseph Bonaparte Gulf	<ul style="list-style-type: none"> <li>- Covers an area of 8,600 km<sup>2</sup></li> <li>- Examples of the shallow water ecosystems and communities of the Northwest Shelf Transition Province</li> <li>- Contains a number of prominent shallow seafloor features, including an emergent reef system, shoals and sand banks</li> <li>- Provides connectivity between the sea and nearshore environments, such as the Ord River floodplain, as well as the adjacent North Kimberley Marine Park</li> <li>- Important foraging area for threatened and migratory marine turtles (green and olive ridley) (DoNP 2018b)</li> <li>- Significant year-round flatback turtle nesting at Turtle Point (Chatto and Baker 2008)</li> <li>- Important foraging area for Australian snubfin dolphin</li> <li>- One KEF: Carbonate banks of the Sahul Shelf</li> </ul>	Multiple Use (IV) Special Purpose (VI)	<p>Multiple Use Zone (IUCN category VI)—managed to allow ecologically sustainable use while conserving ecosystems, habitats and native species. The zone allows for a range of sustainable uses, including commercial fishing and mining where they are consistent with park value</p> <p>The objective of the Special Purpose Zone (IUCN VI) is to protect the area with sustainable use of its natural resources and managed mainly for the sustainable use of natural ecosystems</p> <p>Environment Australia (2002) DoNP (2018)</p>
Arnhem	<ul style="list-style-type: none"> <li>- Covers an area of 7,125 km<sup>2</sup></li> <li>- Examples of the ecosystems of the Northern Shelf Province</li> <li>- Important internesting area for the flatback turtle</li> <li>- Important foraging habitat for breeding aggregations of the migratory bridled and roseate terns, and the listed marine crested tern</li> </ul>	Special Purpose (VI)	<p>The objective of the Special Purpose Zone (IUCN VI) is to protect the area with sustainable use of its natural resources and managed mainly for the sustainable use of natural ecosystems</p> <p>Environment Australia (2002) DoNP (2018b)</p>
Wessel	<ul style="list-style-type: none"> <li>- Covers an area of 5,908 km<sup>2</sup></li> <li>- Examples of the ecosystems of the Northern Shelf Province</li> <li>- Important internesting area for flatback, green, hawksbill and olive ridley turtles</li> <li>- Important foraging habitat for breeding aggregations of the migratory common noddy and roseate tern, and the listed marine crested tern</li> <li>- One KEF: Gulf of Carpentaria Basin</li> </ul>	Habitat Protection (IV) Special Purpose [Trawl] (VI)	<p>The objective of the Habitat Protection Zone (IV) is to provide for the conservation of ecosystems, habitats and native species in as natural a state as possible, while allowing activities that do not harm or cause destruction to seafloor habitats</p> <p>The objective of the Special Purpose Zone (Trawl) (VI) is to provide for ecologically sustainable use and the conservation of ecosystems, habitats and native species, while applying special purpose management arrangements for specific activities</p> <p>Environment Australia (2002) DoNP (2018b)</p>

Australian Marine Park	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
Roebuck	<ul style="list-style-type: none"> <li>- Covers an area of approximately 304 km<sup>2</sup></li> <li>- Foraging habitat area for migratory seabirds adjacent to important breeding areas</li> <li>- Foraging area adjacent to important nesting sites for flatback turtles</li> <li>- Parts of the migratory pathway of the protected humpback whale</li> <li>- Habitat adjacent to important foraging, nursing and pupping areas for freshwater, green and dwarf sawfish</li> <li>- Foraging and calving areas for Australian snubfin, Indo-Pacific humpback and Indo-Pacific bottlenose dolphins</li> <li>- Foraging habitat for dugong (DoE 2014)</li> <li>- Sea country valued for indigenous cultural identity, health and well-being for the Yawuru people (Director of National Parks 2017b)</li> </ul>	Multiple Use (VI)	<p>Multiple Use Zone (IUCN category VI)—managed to allow ecologically sustainable use while conserving ecosystems, habitats and native species. The zone allows for a range of sustainable uses, including commercial fishing and mining where they are consistent with park value</p> <p>Environment Australia (2002) DoNP (2018a)</p>
Eighty Mile Beach	<ul style="list-style-type: none"> <li>- Covers an area of 10,785 km<sup>2</sup></li> <li>- Adjacent to the Eighty Mile Beach Ramsar site</li> <li>- Foraging areas for migratory seabirds that are adjacent to important breeding grounds</li> <li>- Important foraging areas for marine turtles adjacent to significant nesting sites</li> <li>- Part of the migratory pathway of the humpback whale</li> <li>- Areas adjacent to important foraging, nursing and pupping areas for freshwater, green and dwarf sawfish</li> <li>- Sea country valued for indigenous cultural identity, health and well-being for the Nyangumarta, Ngarla and the Karajarri people (DoNP 2018a)</li> </ul>	Multiple Use (VI)	<p>Multiple Use Zone (IUCN category VI)—managed to allow ecologically sustainable use while conserving ecosystems, habitats and native species. The zone allows for a range of sustainable uses, including commercial fishing and mining where they are consistent with park value</p> <p>Environment Australia (2002) DoNP (2018a)</p>
Montebello	<ul style="list-style-type: none"> <li>- Covers an area of 3,413 km<sup>2</sup></li> <li>- Largest breeding population of roseate terns in WA</li> <li>- Breeding area for ospreys, white-bellied sea-eagles, eastern reef egrets, Caspian terns, and lesser crested terns</li> <li>- Observations suggest an area to the west of the Montebello Islands may be a minor zone of upwelling in the NWMR, supporting large feeding aggregations of terns</li> <li>- Important feeding ground for Hutton’s shearwaters and soft-plumaged petrels</li> </ul>	Multiple Use (VI)	<p>Multiple Use Zone (IUCN category VI)—managed to allow ecologically sustainable use while conserving ecosystems, habitats and native species. The zone allows for a range of sustainable uses, including commercial fishing and mining where they are consistent with park value</p> <p>Environment Australia (2002) DoNP (2018a)</p>

Australian Marine Park	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
	<ul style="list-style-type: none"> <li>- provides connectivity between deeper waters of the shelf and slope, and the adjacent Barrow Island</li> <li>- Diverse benthic and pelagic fish communities</li> <li>- Internesting, foraging, mating and nesting habitat for marine turtles</li> <li>- Migratory pathway for humpback whales</li> <li>- Foraging habitat for whale sharks (DoNP 2018a)</li> <li>- One KEF: ancient coastline at the 125 m depth contour</li> </ul>		
Dampier	<ul style="list-style-type: none"> <li>- Covers an area of 1,252 km<sup>2</sup></li> <li>- Provides protection for offshore shelf habitats adjacent to the Dampier Archipelago</li> <li>- Hotspot for sponge biodiversity (Dampier to Port Hedland)</li> <li>- Diverse benthic and pelagic fish communities</li> <li>- Migratory pathway for humpback whales</li> <li>- Important breeding and foraging habitat for seabirds</li> <li>- Internesting habitat for marine turtles (Director of National Parks 2018a)</li> </ul>	Multiple Use (VI) Habitat Protection National (IV) Park (II)	<p>Multiple Use Zone (IUCN category VI)—managed to allow ecologically sustainable use while conserving ecosystems, habitats and native species. The zone allows for a range of sustainable uses, including commercial fishing and mining where they are consistent with park value</p> <p>The objective of the Habitat Protection Zone (IV) is to provide for the conservation of ecosystems, habitats and native species in as natural a state as possible, while allowing activities that do not harm or cause destruction to seafloor habitats</p> <p>The objective of the National Park Zone (II) is to provide for the protection and conservation of ecosystems, habitats and native species in as natural a state as possible</p> <p>Environment Australia (2002) DoNP (2018a)</p>

## **2.6 Other Areas of High Conservation Significance within the EMBA**

### **2.6.1 State and External Territory Reserves**

Seventy-eight State and Territory reserves are located within the EMBA, eight of which are marine or coastal and relevant to potential impact assessment (Table 19 and Figure 9).

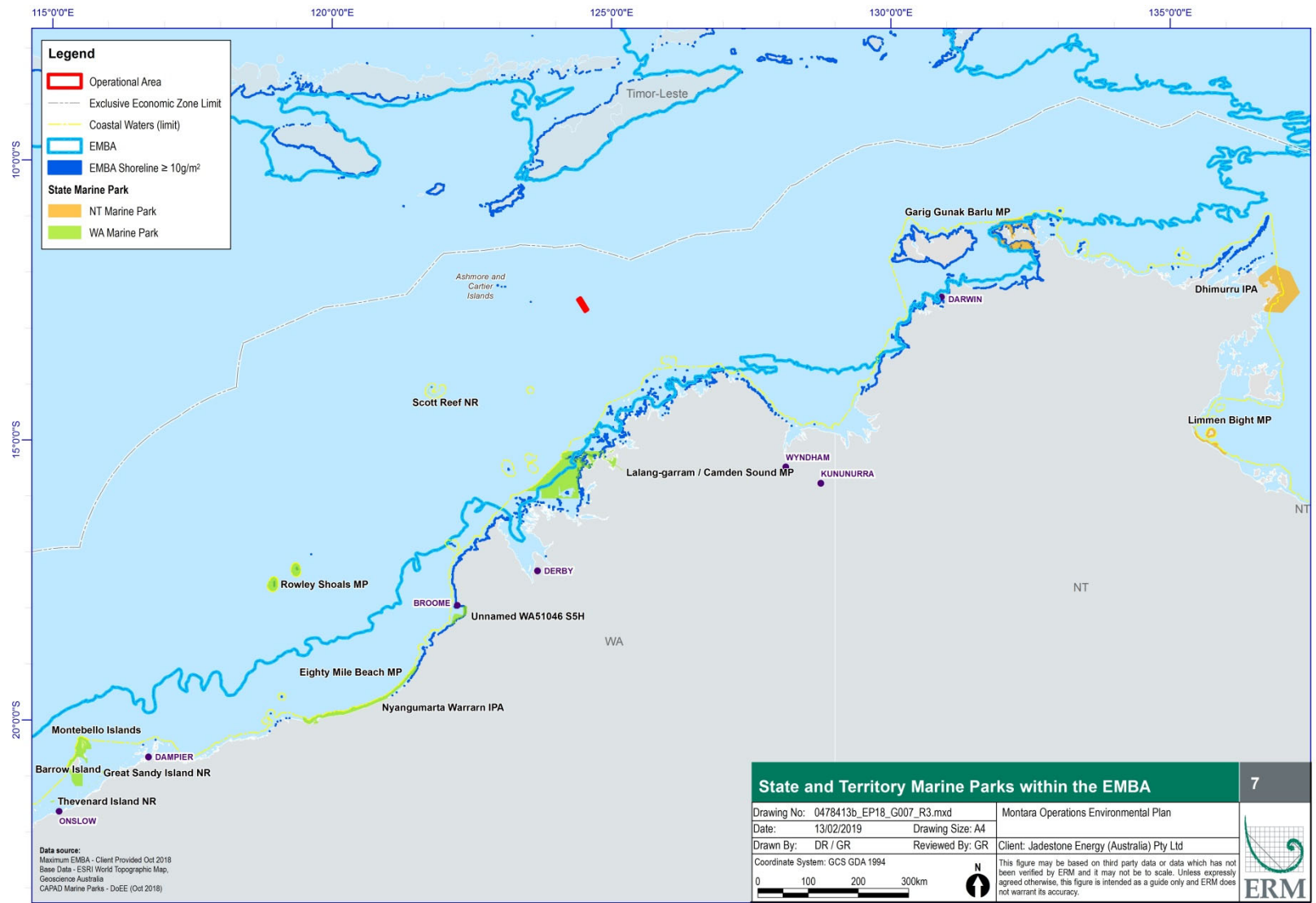


**Table 19: Description of State and Territory Marine Parks within the EMBA**

State or External Territory Marine Parks	Straight-line distance from Montara	Key Features of Conservation Significance	Rules/ Requirements
North Kimberley Marine Park (WA)	555 km	<ul style="list-style-type: none"> <li>- Covers an area of ~1,845,000 ha</li> <li>- Comprises four separate management areas including, Uunguu, Balangarra, Miriuwung Gajerrong and Wilinggin</li> <li>- Recognised for its Aboriginal cultural and heritage values</li> <li>- Natural values include coral reefs, marine turtle species, dugongs, seagrass and macroalgal communities, mangroves and saltmarshes, finfish, and water and sediment quality</li> <li>- Social values include recreation, tourism and community values) and commercial values and resource use (e.g. commercial fishing) (DPaW 2016a)</li> </ul>	North Kimberley Marine Park Joint Management Plan 2016 Uunguu, Balangarra, Miriuwung Gajerrong, and Wilinggin management areas (Department of Parks and Wildlife 2016)
Browse Island Nature Reserve (WA)	193km	<ul style="list-style-type: none"> <li>- Small, approx. 14 ha uninhabited island</li> <li>- Coral assemblages characteristic of coral platform reefs throughout the Indo-West Pacific region, particularly Cartier Island</li> <li>- Coral diversity greatest on the reef faces and shallow lagoons but these areas were of very limited extent (URS 2010a)</li> <li>- Nesting site for green turtles</li> <li>- Seabird nesting site</li> <li>- Fringing coral reefs with the waters around the island a site of upwelling associated with concentrations of tropical krill</li> <li>- 9 historic shipwrecks (1 on register of National Estate)</li> <li>- Historical human impact from guano mining, lighthouse construction and introduction of house mice</li> <li>- Surrounding waters visited by Indonesian fisherman</li> </ul>	No MP in place
Christmas Island	~2500 km	<ul style="list-style-type: none"> <li>- An isolated oceanic island, approximately 135 km<sup>2</sup> in area</li> <li>- Rises steeply from the sea floor from depths of 5,000 m</li> <li>- National Park covers approximately 85 km<sup>2</sup> (63%) of the island's land area (Director of National Parks 2014).</li> <li>- High level of endemism - 254 endemic species and 165 species occurring nowhere else in Australia (including 50 fish species)</li> <li>- Whale sharks generally migrate through the island's waters between November and April</li> <li>- Waters surrounding the island are critical for the survival of the island's land crabs, including tens of</li> </ul>	Christmas Island National Park Management Plan (2014-2024)

State or External Territory Marine Parks	Straight-line distance from Montara	Key Features of Conservation Significance	Rules/ Requirements
		<p>millions of red crabs, as they release their eggs into the sea as part of their breeding life cycle</p> <ul style="list-style-type: none"> <li>- Two marine turtles listed as vulnerable under the EPBC Act, the green and hawksbill turtles, are found in the park's waters and green turtles occasionally nest on Dolly Beach</li> <li>- One of the world's significant seabird islands</li> <li>- More than 100 migrant and vagrant species have been recorded, including nine resident breeding seabird species (with three of these being endemic or endemic subspecies) and 23 vagrant/non-breeding seabirds</li> <li>- Abbott's booby and the Christmas Island frigatebird have their only extant nesting habitat in the world on Christmas Island</li> <li>- Fringing coral reefs and significant geomorphological features such as the island's terraces and cave systems, including anchialine cave systems (caves containing a subterranean water body with connections to the ocean) which provide animal habitat</li> <li>- The Dales and Hosnies Spring Ramsar wetlands</li> <li>- High recreational value</li> </ul>	
Lalang-garram/ Horizontal Falls and North Lalang-garram Marine Parks	226 km	<p>Jointly managed by Dambimangari Traditional Owners and the Department of Parks and Wildlife (DPaW 2016).</p> <ul style="list-style-type: none"> <li>- Included in the Australian National Heritage List for its nationally significant natural, indigenous and historic values (DoEE 2017c).</li> <li>- The Lalang-garram/ Horizontal Falls Marine Park covers approximately 353,000 ha (DPaW 2016). The North Lalang-garram Marine Park covers approximately 110,000 ha (DPaW 2016).</li> <li>- protects the internationally recognised Horizontal Falls and is important for the region's tourism.</li> <li>- large tidal range results in extensive intertidal areas with diverse ecosystems such as fringing coral reefs, mangroves and mudflat communities.</li> <li>- critical foraging and nursery areas for dugong, marine turtles, estuarine crocodiles, snubfin and Indo-Pacific humpback dolphins, several species of sawfish and migratory seabirds.</li> <li>- a principal calving habitat for humpback whales (DPaW 2016).</li> </ul>	DPaW 2016, Lalang-garram/ Horizontal Falls and North Lalang-garram marine parks joint management plan 2016. Management Plan 88. Department of Parks and Wildlife, Perth.
Lalang-garram/Camden Sound	276 km	<ul style="list-style-type: none"> <li>- Located ~300 km north of Broome and lies within the traditional country of three Aboriginal native title groups; The Dambimangari people (majority of the marine park), Wunambal Gaambera people (includes a small portion of St George Basin) and Mayala people (southwest corner of the marine park) (DPaW 2013)</li> <li>- Covers an area of approximately 705,000 ha</li> </ul>	Lalang-garram / Camden Sound Marine Park Management Plan 2013–2023 (Department of

State or External Territory Marine Parks	Straight-line distance from Montara	Key Features of Conservation Significance	Rules/ Requirements
		<ul style="list-style-type: none"> <li>- Principal calving habitat of the humpback whale</li> <li>- Important habitat for marine turtles, snubfin and Indo-Pacific humpback dolphins, dugong, saltwater crocodiles, and several species of sawfish</li> <li>- Wide range of marine habitats and associated marine life, such as coral reef communities, rocky shoals, and the extensive mangrove forests and marine life of the St George Basin and Prince Regent River (DPaW 2013)</li> </ul>	Parks and Wildlife 2013)
Rowley Shoals	744 km	<ul style="list-style-type: none"> <li>- ~300 km north-north-west of Broome</li> <li>- Comprise three oceanic reef systems approximately 30–40 km apart (Mermaid Reef, Clerke Reef and Imperieuse Reef</li> <li>- Intertidal and subtidal coral reefs, exceptionally rich and diverse marine fauna and high water quality</li> <li>- Lying in the headwaters of the Leeuwin Current, the Shoals are thought to provide a source of invertebrate and fish recruits for reefs further south and as such are regionally significant</li> </ul>	Rowley Shoals Management Plan (DEC 2007b)
Garig Gunak Barlu/Coburg (NT)	797 km	<ul style="list-style-type: none"> <li>- Covers an area of 4,500 km<sup>2</sup></li> <li>- Contains a diverse marine habitat including coral reefs, rocky reefs, sand and mudflats, and areas of mangroves, seagrass and macroalgae</li> <li>- 35 species of mangroves</li> <li>- Seagrass habitats are key foraging areas for dugong and marine turtles</li> <li>- Sandy beaches provide green and flatback turtle nesting areas</li> <li>- Sandy Islands I and II provide important seabird rookery areas</li> </ul>	Cobourg Marine Park Plan of Management (NRETAS 2011)
Scott Reef Nature Reserve	314 km	<p>Scott Reef is a large, emergent shelf atoll located on the edge of the broad continental shelf, about 300 km from mainland north-western Australia. The listing comprises the areas of Scott Reef that are within Commonwealth waters to the 50 m BSL bathymetric contour. This includes North Reef, an annular reef, 16.3 km long and 14.4 km wide; and parts of the lagoon of South Reef, a crescent shaped reef 17 km across (DoE 2014d).</p> <p>The place is regionally significant both because of its high representation of species not found in coastal waters off Western Australia and for the unusual nature of its fauna which has affinities with the oceanic reef habitats of the Indo-West Pacific as well as the reefs of the Indonesian region (DoE 2014d).</p>	KEF and Commonwealth Marine



**Figure 9: State and Territory Marine Parks and Marine Management Areas within the EMBA**

## 2.6.2 Key Ecological Features

The KEFs that intersect the EMBA are described in Table 20 and their location is shown in Figure 10.

**Table 20:** Description of Key Ecological Features within the EMBA

Key Ecological Feature	Straight-line distance from Montara	Description and Values
Continental Slope Demersal Fish Communities	82 km	- Valued for its high degree of endemism as the diversity of demersal fish assemblages is high compared to elsewhere along the continental slope
Ashmore Reef and Cartier Island and Surrounding Commonwealth Waters	84 km	- Regionally important for feeding and breeding aggregations of birds and other marine life - Areas of enhanced primary productivity in an otherwise low-nutrient environment - Ashmore Reef supports the highest number of coral species of any reef off the WA coast
Seringapatam Reef and Commonwealth Waters in the Scott Reef Complex	279 km	- Coral communities occur across shallow (<30 m) and deep (>30 m) habitats - 306 hard coral species from 60 genera and 14 families having been identified; all were predominantly widespread Indo-Pacific species (Gilmour et al. 2009) - Coral species diversity comparable to other reefs in the region, such as Ashmore, Seringapatam and Mermaid Reef/Rowley Shoals - Green turtle nesting at Sandy Islet (Guinea 2006) - Shallow atoll reef forms an intertidal platform at low tide High primary productivity relative to other parts of the region and coral communities are largely self-seeded and rely on the reproductive output of resident corals - Relatively pristine and has a high species richness, which apply to both the benthic and pelagic habitats, attracting aggregations of marine life including whale and dolphin species
Canyons Linking the Argo Abyssal Plain with the Scott Plateau	540 km	- Scott Plateau connects with the Argo Abyssal Plain via a series of canyons, the largest of which are the Bowers and Oates canyons (DSEWPac 2012) - High productivity of the region is believed to be led by topographically induced water movements through the canyons and the action of internal waves in these canyons as well as around islands and reefs - The canyons are thought to be linked to small and periodic upwellings that enhance this biological productivity (DEWHA 2008c) - The canyons are likely to be important features due to their historical association with sperm whale aggregations (DSEWPac 2012). Historical records indicate that the number of sperm whales was high. Although current numbers are unknown, it is possible that they congregate around the canyon heads, encouraged by the high biological productivity, supporting stocks of their prey (DEWHA 2008c) - Anecdotal evidence that the Scott Plateau may be a breeding

Key Ecological Feature	Straight-line distance from Montara	Description and Values
		ground for sperm and beaked whales - Likely that important demersal communities occur in the canyons, as they do in the Scott Plateau supported by the localised upwelling (DEWHA 2008c)
Mermaid Reef and Commonwealth Waters Surrounding Rowley Shoals	700 km	- The Rowley Shoals are a group of three atoll reefs—Clerke, Imperieuse and Mermaid reefs—located ~300 km north-west of Broome - Mermaid Reef lies 29 km north of Clerke and Imperieuse reefs and is totally submerged at high tide - Regionally important in supporting high species richness, higher productivity and aggregations of marine life associated with the adjoining reefs themselves (Done et al. 1994) - Contains 214 coral species and approximately 530 species of fishes (Gilmour et al. 2007), 264 species of molluscs and 82 species of echinoderms (Done et al. 1994; Gilmour et al. 2007) - Both coral communities and fish assemblages differ from similar habitats in eastern Australia (Done et al. 1994)
Pinnacles of the Bonaparte Basin	284 km	- The Pinnacles rise steeply from depths of ~80 m to within 30 m of the water surface. Supported communities include sessile benthic invertebrates, including hard and soft corals, sponges, whips, fans, bryozoans and aggregations of demersal fish species such as snappers, emperors and groupers - Recognised as a unique seafloor feature and a biodiversity hotspot for sponges
Ancient Coastline at 125 m Depth Contour	57 km	- A unique seafloor feature with ecological properties of regional significance - Migratory pelagic species (e.g. humpback whales and whale sharks) may use this escarpment as a guide - The topographic complexity of escarpments associated with this feature may facilitate vertical mixing of the water column, providing nutrient-rich localised environments
Carbonate Bank and Terrace System of the Sahul Shelf	46 km	- Regionally important because of its likely ecological role in enhancing biodiversity and local productivity relative to its surrounds - Forms a unique seafloor feature, with banks that rise to at least 45 m, and to within 30 m water depth, allow light dependent organisms to thrive and support more biodiversity (Nichol et al. 2013; NERP 2014) - Supports a high diversity of organisms including reef fish, sponges, soft and hard corals, gorgonians, bryozoans, ascidians and other sessile filter feeders - The banks are known to be foraging areas for loggerhead, olive ridley and flatback turtles - Cetaceans and green and largetooth sawfish are likely to occur in the area
Shelf Break and Slope of the Arafura Shelf	578 km	- Situated in a major biogeographic crossroad where biota is largely affiliated with the Timor–Indonesian–Malay region - Area is characterised by continental slope, patch reefs and hard

Key Ecological Feature	Straight-line distance from Montara	Description and Values
		substrate pinnacles
Carbonate Bank and Terrace System of the Van Diemen Rise	408 km	<ul style="list-style-type: none"> <li>- Unique seafloor feature with ecological properties of regional significance</li> <li>- While reef-forming corals are sparse throughout the region, some locally dense hard corals can be found on the banks of the Van Diemen Rise. These include near threatened, vulnerable and endangered species on the IUCN Red List. Coral communities on the Van Diemen rise are believed to be genetically distinct from those elsewhere in northern Australia.</li> <li>- Pelagic fish such as mackerel, red snapper and a distinct gene pool of gold band snapper are also found on the Van Diemen rise</li> </ul>
Exmouth Plateau	1,302 km	<ul style="list-style-type: none"> <li>- Unique seafloor feature with ecological properties of regional significance, covering an area of 49,310 km<sup>2</sup>, located approximately 150 km northwest of Exmouth</li> <li>- The plateau ranges in water depths from 800 to 4,000 m (Heap &amp; Harris 2008 in DSEWPac 2012)</li> <li>- Serves an important ecological role by acting as a topographic obstacle that modifies the flow of deep waters that generate internal tides, causing upwelling of deeper water nutrients closer to the surface (Brewer et al. 2007)</li> <li>- Sediments on the plateau suggest that biological communities include scavengers, benthic filter feeders and epifauna</li> <li>- Whaling records suggest that the Exmouth Plateau may have supported large populations of sperm whales (Bannister et al. 2007)</li> <li>- Fauna in the pelagic waters above the plateau are likely to include small pelagic species and nekton (Brewer et al. 2007)</li> </ul>
Tributary Canyons of the Arafura Depression	964 km	<ul style="list-style-type: none"> <li>- Valued for its high productivity, levels of endemism and biodiversity, and is located in the Timor Transition provincial bioregion</li> <li>- The canyons are approximately 80–100 m deep and 20 km wide. The largest of the canyons extend some 400 km from Cape Wessel into the Arafura Depression (Heap et al. 2004)</li> <li>- Almost all canyons in the NMR are located within this KEF and endemic benthic species are believed to occur there (Wilson 2005)</li> <li>- Primary productivity likely to be associated with movements of water through the canyons and surface water circulation driven by seasonal north-west monsoon winds</li> <li>- The steep topography of the canyons, their diverse current regimes, nutrient enrichment and entrapment, detritus funnelling and diverse substrate types form widely divergent ecosystems (McClain &amp; Barry 2010; Vetter 1994; Vinogradova 1959) which, in combination with the regional setting and geological origins of the area, strongly influence species biodiversity (Kloser et al. 2010)</li> <li>- Marine turtles (most likely olive ridleys) have been reported to feed in the vicinity of the canyons (Whiting et al. 2007)</li> </ul>
Glomar Shoals	1,118 km	<ul style="list-style-type: none"> <li>- Submerged feature situated at a depth of 33–77 m, approximately 150 km north of Dampier on the Rowley Shelf (Falkner et al. 2009 in DSEWPac 2012)</li> <li>- Consist of a high percentage of marine-derived sediments with high</li> </ul>

Key Ecological Feature	Straight-line distance from Montara	Description and Values
		<p>carbonate content and gravels of weathered coralline algae and shells (McLoughlin &amp; Young 1985 in DSEWPaC 2012)</p> <ul style="list-style-type: none"> <li>- The area's higher concentrations of coarse material compared to surrounding areas are indicative of a high energy environment subject to strong seafloor currents (Falkner et al. 2009 in DSEWPaC 2012)</li> <li>- Biological communities found at the Glomar Shoals have not been comprehensively studied, however the shoals are known to be an important area for a number of commercial and recreational fish species such as rankin cod, brown striped snapper, red emperor, crimson snapper, bream and yellow-spotted triggerfish. Catch rates at the Glomar Shoals are high, indicating that the area is a region of high productivity (Falkner et al. 2009, Fletcher &amp; Santoro 2009 in DSEWPaC 2012). It is unclear if the removal of non-target species due to the commercial fishing over the shoals is having an impact on its value (DSEWPaC 2012).</li> <li>- Regionally important for their potentially high biological diversity and localised productivity</li> <li>- Biological data specific to the Glomar Shoals is limited, however the fish of the shoals are probably a subset of reef-dependent species and anecdotal evidence suggests they are particularly abundant (DSEWPaC 2012)</li> </ul>
Gulf of Carpentaria Basin	1,343 km	<ul style="list-style-type: none"> <li>- The Gulf of Carpentaria is believed to be one of the few remaining near-pristine marine environments in the world (Bustamante et al. 2010; Coles et al. 2004; Wightman et al. 2004)</li> <li>- Primary productivity in the gulf's basin is mainly driven by cyanobacteria that fix nitrogen (Burford et al. 2009), but is also strongly influenced by seasonal processes</li> <li>- The soft sediments of the basin are characterised by moderately abundant and diverse communities of infauna and mobile epifauna dominated by polychaetes, crustaceans, molluscs and echinoderms</li> <li>- Supports assemblages of pelagic fish species including planktivorous and schooling fish, and top predators such as shark, snapper, tuna and mackerel (Smith et al. 2006)</li> <li>- Important migratory route for seabirds, shore birds and marine turtles</li> </ul>



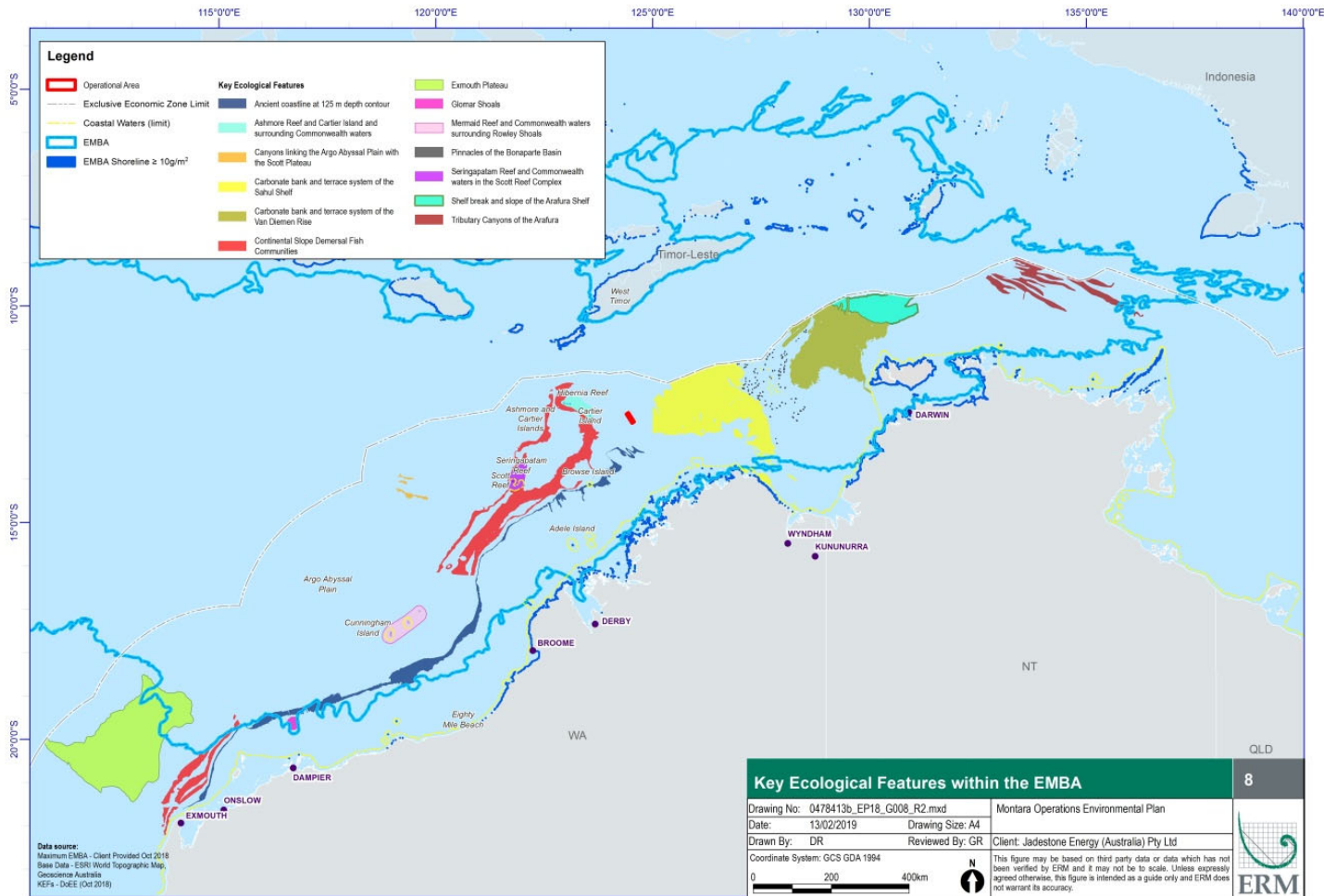


Figure 10: Key Ecological Features within the EMBA

## 2.7 Social Values

### 2.7.1 Commercial Fishing

The geographical extent of State and Territory fisheries were mapped to determine which licence holders were permitted to operate in the fishery. A number of Fisheries are licensed to operate within the EMBAAs (noting that some may not currently operate or target species may not exist within the EMBAAs, but state-wide licensing extends the licence area to cover the EMBAAs). In addition to the fisheries listed in Table 21, other fisheries in the EMBAAs are listed below:

#### Commonwealth

- Christmas Island and Cocos (Keeling) Island fisheries;
- Northern Prawn Fishery; and
- North-West Slope Trawl Fishery.

#### Western Australia

- Abalone (Area 4 and 8);
- Beche de Mer;
- Broome Prawn Managed Fishery;
- Kimberley Developing Mud Crab;
- Kimberley Gillnet and Barramund;
- Mackerel Managed Fishery (Area 2);
- Marine Aquarium Fish Managed Fishery;
- Northern Demersal Scalefish Managed Fishery (Area 1);
- Nickol Bay Prawn;
- Onslow Prawn;
- Pearl Oyster Managed Fishery (Zone 4);
- Pilbara Line;
- Pilbara Trap;
- Pilbara Trawl;
- Trochus;
- WA North Coast Shark Fishery; and
- West Coast Deep Sea Crustacean.

#### Northern Territory

- Aquarium Fishery;
- Bait Net Fishery;

- Barramundi Fishery;
- Coastal Line Fishery;
- Coastal Net Fishery;
- Mollusc Fishery;
- Pearl Oyster Fishery;
- Mud Crab Fishery;
- Trepang Fishery;
- Demersal Fishery;
- Off-shore Net and Lines Fisheries;
- Spanish Mackerel Fishery; and
- Timor Reef Fishery.

A number of fisheries are permitted to operate in the Operational Area but it is either not an appropriate area for the collection method/ gear or habitat for the species targeted. Table 21 identifies the relevant Commonwealth, State and Territory fisheries that overlap the Operational area (**Figure 11**).

**Table 21: State and Commonwealth commercial fisheries within the Operational Area**

Value/Sensitivity	Description
<b>Commonwealth Managed Fisheries</b>	
Western Tuna and Billfish Fishery	<ul style="list-style-type: none"> <li>• Extends westward from Cape York Peninsula (142°30' E) off Queensland to 34° S off the WA west coast. It also extends eastward from 34° S off the west coast of WA across the Great Australian Bight to 141° E at the South Australian–Victorian border.</li> <li>• The Western Tuna and Billfish Fishery targets bigeye tuna (<i>Thunnus obesus</i>), yellowfin tuna (<i>Thunnus albacares</i>), broadbill swordfish (<i>Xiphias gladius</i>) and striped marlin (<i>Tetrapturus audax</i>).</li> </ul> <p>The fishery targets areas of reef which are present within the EMBA.</p>
Southern Bluefin Tuna	No fishing within Operational Area but spawning grounds/migration route of Southern Bluefin Tuna overlaps with Operational Area.
Western Skipjack Tuna Fishery	Not currently operational
<b>State and Territory Managed Fisheries</b>	
Mackerel Managed Fishery (WA)	<ul style="list-style-type: none"> <li>• Near-surface trolling gear from vessels in coastal areas around reefs, shoals and headlands.</li> </ul> <p>Targets a range of tropical and temperate pelagic species, including Spanish mackerel (<i>Scomberomorus commerson</i>) and grey mackerel (<i>Scomberomorus semifasciatus</i>).</p>
Northern Demersal Scalefish Managed Fishery (WA)	<ul style="list-style-type: none"> <li>• Since 2002 a trapped based fishery (7 vessels in 2016/2017).</li> <li>• The NDSMF principally targets the higher-value species such as the goldband snapper and red emperor resulting in an economic value of \$5-10 million.</li> <li>• High local social amenity value and a key target of charter operations.</li> <li>• Isolated geographic location limits interaction and no disruption to fishing activities</li> </ul>

Value/Sensitivity	Description
	would be expected. Less than 3 vessels a year have returned catch from the Operations Area or its immediate vicinity (2015 – 2017). Catch data is confidential.
Northern Shark Fishery (NSF) Joint Managed Fishery Area (JMFA) Fletcher et al. (2017)	<ul style="list-style-type: none"> <li>Comprises the State-managed WA North Coast Shark Fishery in the Pilbara and western Kimberley, and the Joint Authority Northern Shark Fishery in the eastern Kimberley</li> <li>Extends from 123°45' E (Koolan Island) to the WA/NT border</li> </ul> No activity has been recorded in this fishery since 2009
Pearl Oyster	Licenced but water depth at Operational Area too deep for collection method
Kimberley Prawn	Licenced but habitat and water depth unsuitable
Specimen Shell	Licenced but water depth at Operational Area too deep for collection method unless ROV used (given remoteness of site this is unlikely)

### 2.7.2 Recreational and Charter Fishing

Recreational fishing is a popular activity in the Kimberley region, however effort is concentrated around regional centres due to the remoteness. Transiting recreational vessels passing through the EMBA region will often undertake recreational fishing activities for sustenance and leisure. A small group of recreational fishing and charter vessels do occasionally visit the Ashmore Reef and surrounds and other reefs in the EMBA.

### 2.7.3 Customary

Customary fishing occurs in the Dambimangari IPA, Djelk IPA and Uunguu IPA. The importance of customary fishing in WA and NT is to recognise Aboriginal cultural heritage and needs. Customary fishing is fishing for personal, domestic, ceremonial, educational or non-commercial needs. Fishers use modern fishing methods such as aluminium boats and outboard motors.

### 2.7.4 International Subsistence

As the world's largest archipelagic State with approximately 17,500 islands, fisheries form a significant socio-economic sector in Indonesia. As in Timor-Leste, the vast majority of fishery production (up to 95%) comes from artisanal fishing practices (FAO 2017). The fisheries management area 573 (South of Java – East Nusa Tenggara), encompasses the Lesser Sunda Ecoregion and is a particular productive area with a variety of target demersal and pelagic fisheries, including, lobster, tuna, sardines and shark fisheries. Many of these fisheries are under pressure from overexploitation, unsustainable fishing practices, under regulation and poor management/monitoring, nevertheless they significantly contribute to the economy and social fabric within coastal communities in the region (FAO 2017).

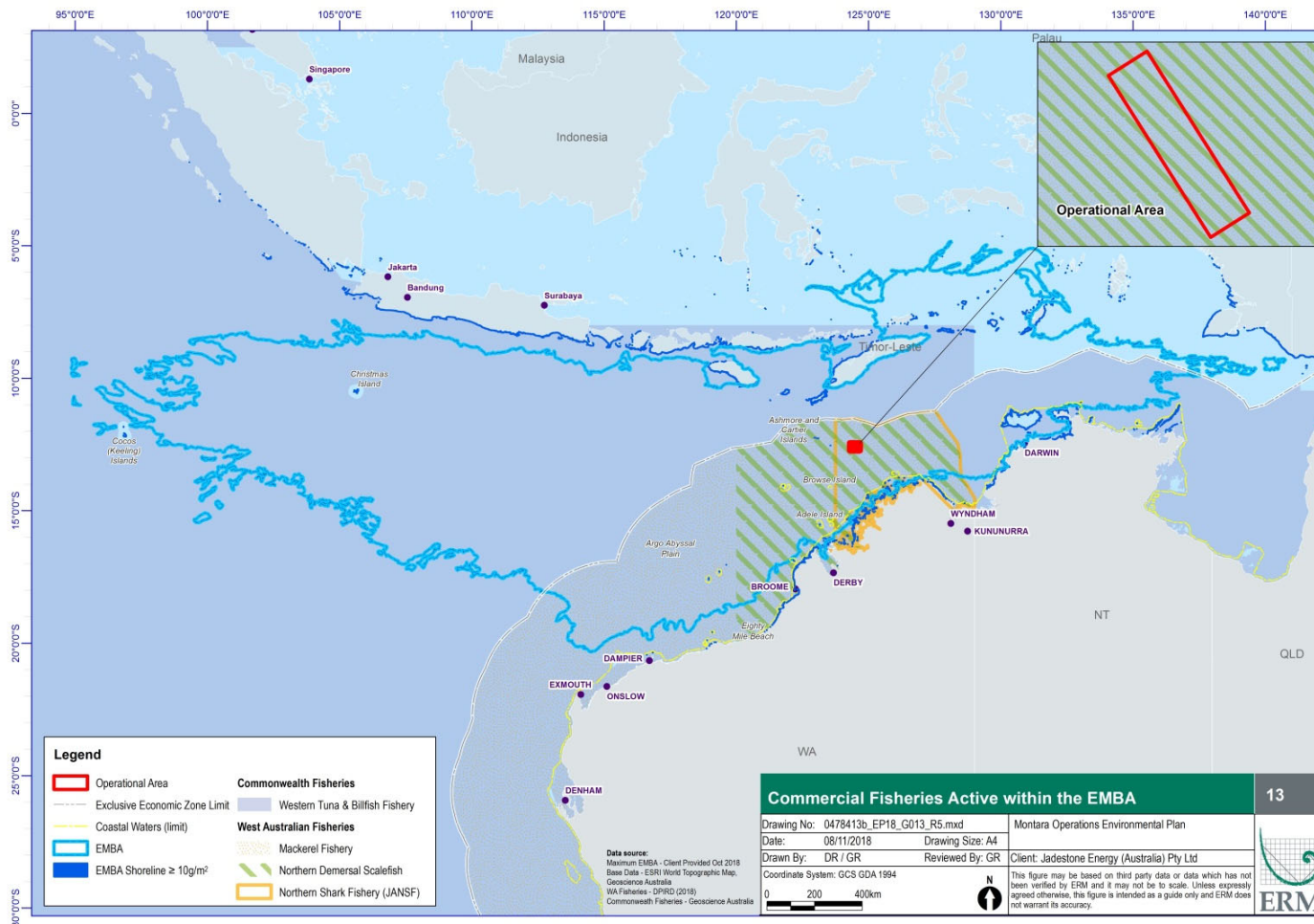
Coral reefs are vital sources of food and income for coastal communities. More than one-third of the Indonesian population living in coastal areas depends on nearshore fisheries for livelihood (ADB 2014). More than 60% of the animal protein consumed by the population in 2000 was derived from fisheries.

Discussions with Indonesian fishermen in Kupang and the Australian Fishery Management Authority (Sinclair Knight Merz 1993) and with fishermen at Suai, Timor Leste, Pepela and East Rote (Ataupah) (BHPP 1996) indicated that two types of fisheries occur in the region that is likely to intersect the EMBA; trawl and longline. Trawl fishing is commonly undertaken in shallower, inshore areas, targeting scarlet and saddletail perch, snapper and emperor fish. Trawling is also concentrated in the

vicinity of Sahul Bank and Echo Shoals and boats may pass through the Operational Area to reach these fishing grounds (BHP 2007).

#### 2.7.5 Aquaculture

Aquaculture within the region is undertaken within estuarine and marine waters focusing on a variety of species and methods, including prawns, fish and seaweed. Trochus at Cape Leveque and Barramundi at Cone Bay are two larger scale operations along the Australian coastline within the EMBA. In Indonesia and Timor Leste, aquaculture activities often contribute significantly to local employment and food production within the region (FAO 2017). Almost 50% of Indonesia's fisheries are produced from aquaculture (worth \$4.3 billion USD).



**Figure 11: Commonwealth, State and Territory commercial fishing zones within the EMBA**

### 2.7.6 Shipping and vessel movements

Heavy vessels following the charted Osborn Passage will pass through both permits to the north of the Montara Venture FPSO (Figure 12). The area may also be utilised by support vessels from oil and gas operations in the Timor Sea Area.

Occasional interaction with Australian Commercial Fishing vessels, illegal foreign fishing vessels or other illegal vessels is also possible.

To monitor for illegal passage of immigrants and illegal fishing activity the Australian Border Force (ABF) and Royal Australian Navy (RAN) vessels undertake surveillance within an area extending roughly 200 nm from the mainland (Jones 2013). Due to the large geographic extent of these operations and the documenting of the Montara Operations on Maritime Notices, direct interaction with ABF or RAN vessels is not expected to occur.



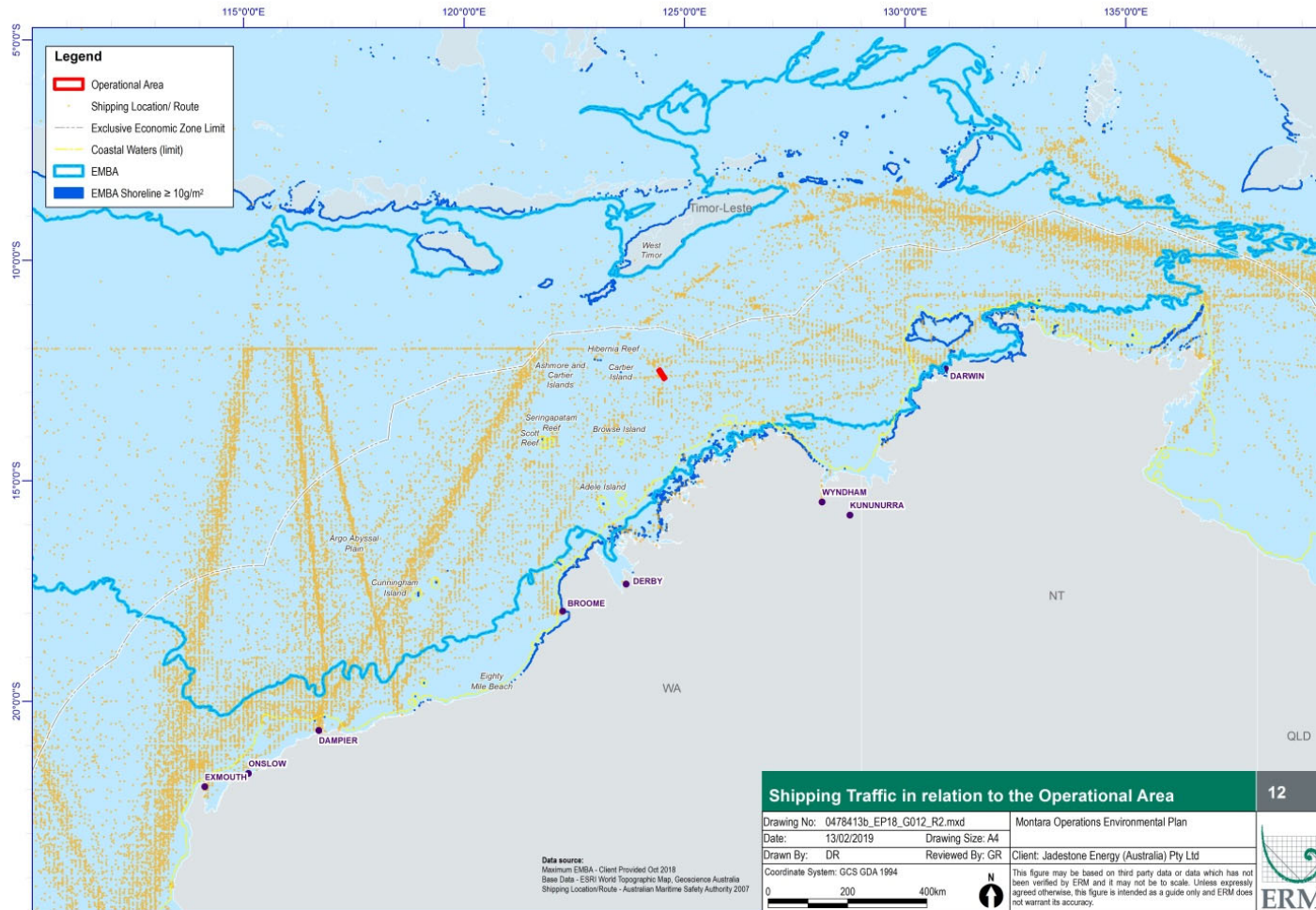


Figure 12: Shipping activity within the region



### 2.7.7 Oil and Gas Industry

There are numerous exploration and production of oil and gas operators in the region. The closest to the Operational Area include Auriga West 1 (Shell) and the Maple wells (PTTEP which are 34 and 59 km away respectively. See **Table 22** and Figure 13.

**Table 22: Titleholders in vicinity of EMBA**

Titleholder	Title blocks
Bounty Oil & Gas NL	AC/P32
Carnarvon Petroleum Limited	WA-523-P, AC/P62, AC/P63
Cornea Resources Pty Ltd	WA-54-R
ConocoPhillips Pty Ltd	WA-398-P, WA-315-P
Eni Australia Limited	AC/P21
Finder Exploration Pty Ltd	AC/P61, AC/P56, AC/P55, AC/P45
INPEX	AC/P36, WA-343-P, WA-56-R, WA-285-P
IPB Petroleum Limited	WA-471-P, WA-485-P
Murphy Australia Pty Ltd	AC/P57, AC/P59
Octanex Bonaparte Pty Ltd	WA-420-P
Santos Limited	WA-74-R, WA-274-P, WA-513-P
SGH Energy Pty Ltd	WA-377-P
Shell Australia	AC/P52, AC/P41, WA-44-L, AC/RL9, WA-371-P
Sinopec O&G Pty Ltd	AC/RL1
Timor Sea Oil & Gas Australia Pty Ltd	AC/L5
Total E&P Australia Exploration Pty Ltd	AC/P60
Vulcan Exploration Pty Ltd	AC/P50

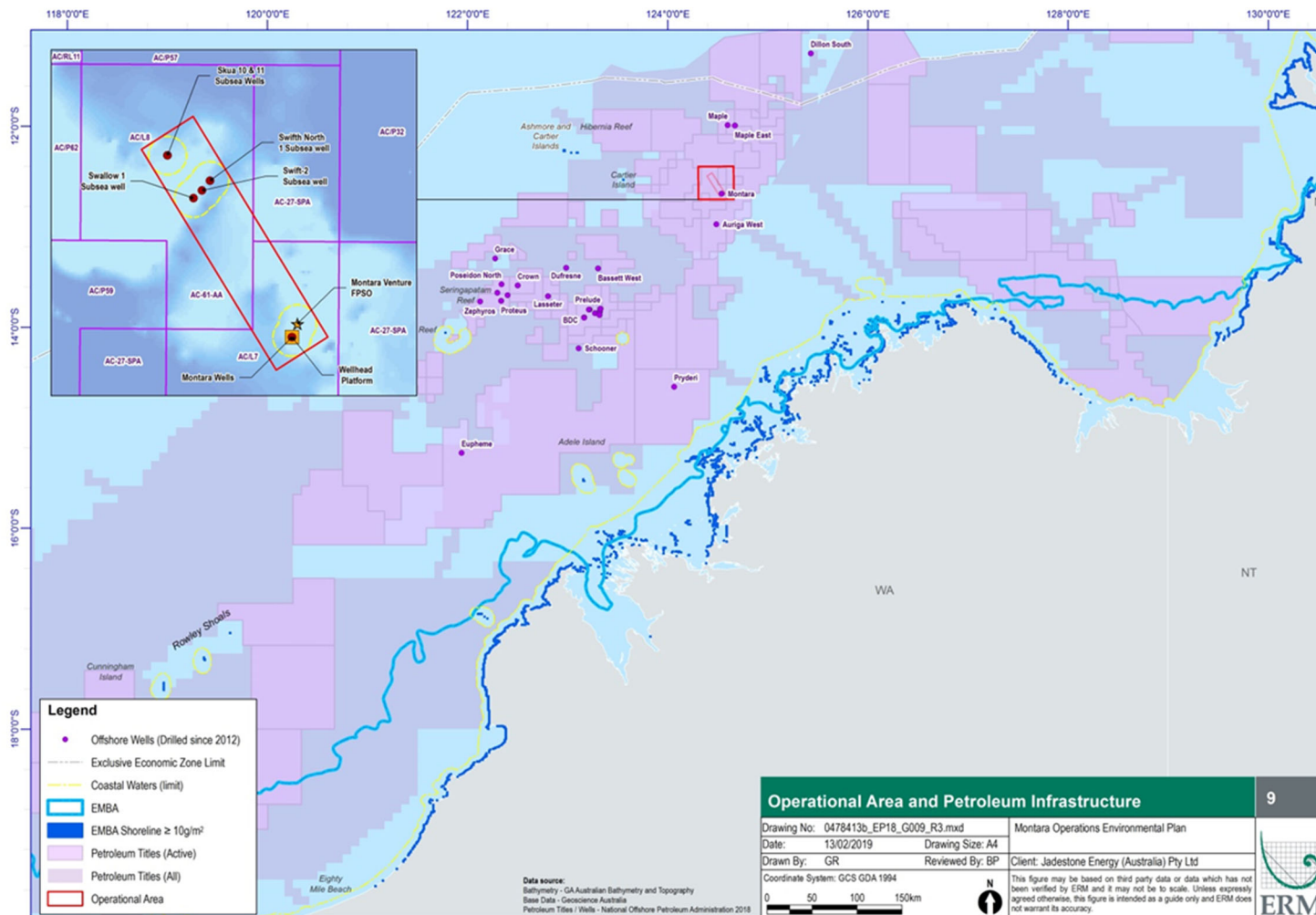


Figure 13: Petroleum Infrastructure in the region

### 2.7.8 Defence

The two closest defence training areas to the Operations Area are the North Australian Exercise Area (NAXA) (approximately 370 km to the east) and the Curtin Air-to-Air Air Weapons Range (approximately 280 km south west). Defence estate also exists through the Kimberley shoreline.

### 2.7.9 Tourism

The remoteness and water depth (~80m) of the Operational Area means it is not likely to be accessed for tourism activities (e.g. recreational fishing and boating and charter boats operations). Such activities tend to be focussed around nearshore waters, islands and coastal areas. Some charter operations do access some of the nearby islands and reefs (including Scott Reef, Ashmore Reef and Cartier Island) as part of regular itineraries.

Tourism is important to the economy and livelihood of Indonesia (ADB 2014) with particular tourist centres in Bali, Flores, Lombok, Komodo and the Gili Islands. Bali is one of the most popular holiday destinations for Western Australians, with the value estimated to be 30% of GDP. Tourists visit Bali and other Indonesian locations such as West Java and Jakarta to appreciate the culture, but also to enjoy the natural biodiversity found within them. The marine environment within these centres is a major attraction, with beach and coastal activities (snorkelling, surfing, diving and fishing) are common (ADB 2014).

Scuba diving is very popular in National Parks like Bali Barat and Komodo National Park because of the park's high marine biodiversity. The development of, largely marine-based, ecotourism is the main strategy to make the park self-financing and generate sufficient revenue through entrance fees and tourism licenses to cover operational and managerial costs.

Tourism in Timor-Leste represents a small percentage of the country's economy at present but the Government regards growth in tourism as critical to future economic development.

### 2.7.10 Population Centres

#### **Australia**

The nearest major population centres to the Operational Area are Broome and Darwin. The closest coastline to the Operational Area on the Australian mainland is the Kimberley Coast, which is sparsely populated.

#### **Indonesia and Timor Leste**

The city of Kupang, the capital of the Indonesian province East Nusa Tenggara, is the closest major population centre to the Operational Area (~295 km). The city has a population of approximately 250,000 and supports a diverse range of industries including fishing, cement production and aquaculture. It is also an important focal point for the tourism industry.

Timor-Leste comprises the eastern half of the island of Timor, the nearby islands of Atauro and Jaco, and Oecusse, an exclave on the northwestern side of the island surrounded by Indonesian West Timor. The city of Suai is the closest major population area in Timor-Leste to the Operational Area.

### 2.7.11 Cultural Heritage

There is limited information regarding cultural heritage (including indigenous and maritime heritage values) in the Operational Area and broader EMBA, including the shoals and islands. A search of the Department of Planning, Lands and Heritage Aboriginal Heritage Inquiry System (AHIS) did not identify with the Operational Area any:

- Registered Aboriginal sites;

- Other heritage sites;
- Registered land use agreements; and
- Native Title Determinations.

No historical shipwrecks are recorded in the Operations Area also (DoEE 2018).

It has been recorded that Ashmore Reef Marine Park contains Indonesian artefacts and grave sites, and Ashmore lagoon is still accessed as a rest or staging area for traditional Indonesian fishers travelling to and from fishing grounds. The closest shipwreck is the *Ann Millicent*, approximately 110 km north-west of the Operations area (SEWPaC 2013).

Within Australian waters and coastline that may be affected in the broader EMBA, there are many values of cultural significance, with numerous shipwrecks and heritage sites (Figure 14). Along the Kimberley Coast and the Northern Territory there are many Native Title Determinations and Indigenous Land Use Agreements, including some that include sea country.

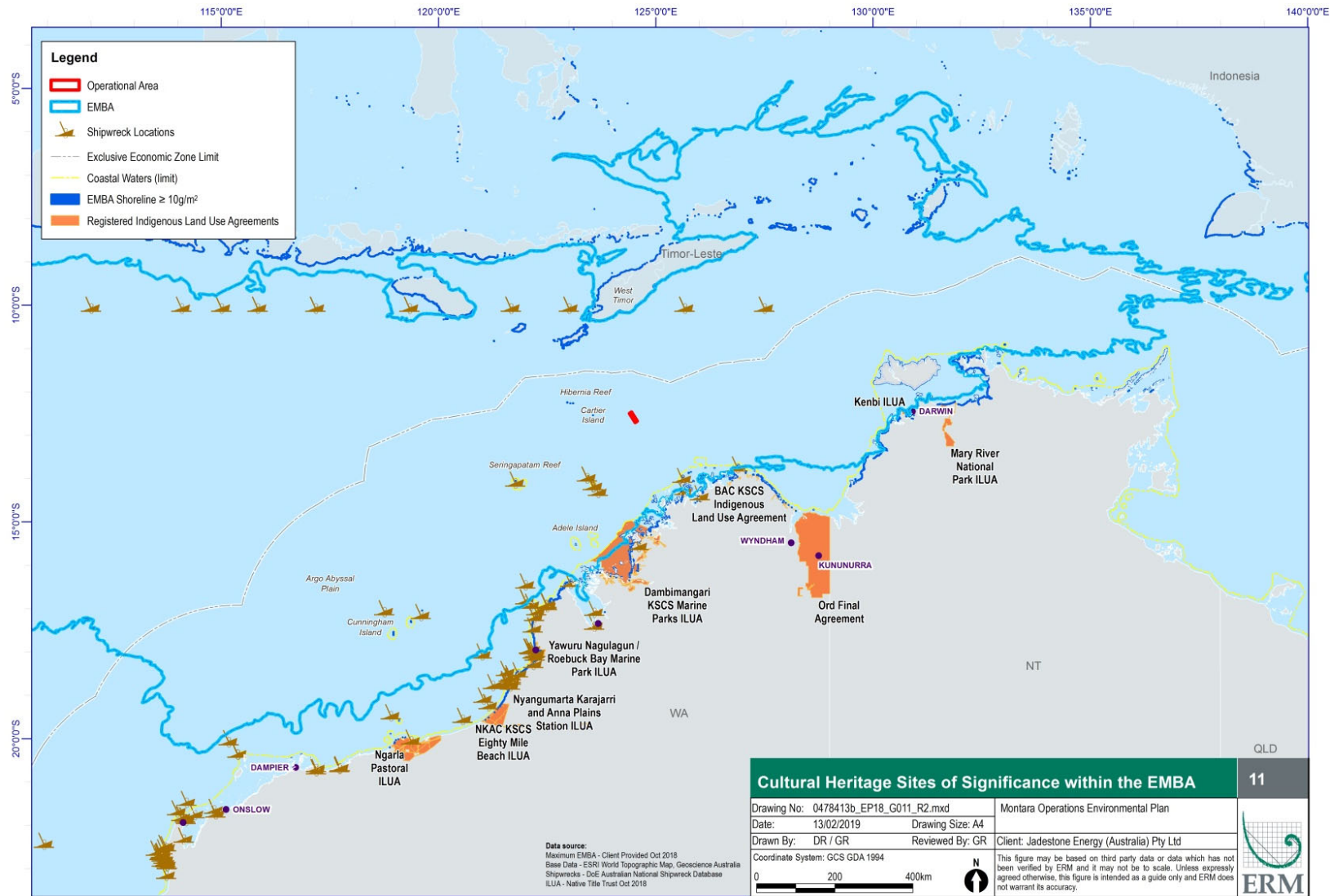


Figure 14: Cultural heritage sites within the EMBA



Australian Government

Department of Climate Change, Energy,  
the Environment and Water

# EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 21-Nov-2022

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

# Summary

## Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	1
<a href="#">Wetlands of International Importance (Ramsar)</a>	5
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	13
<a href="#">Listed Threatened Ecological Communities:</a>	1
<a href="#">Listed Threatened Species:</a>	90
<a href="#">Listed Migratory Species:</a>	89

## 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>	143
<a href="#">Commonwealth Heritage Places:</a>	21
<a href="#">Listed Marine Species:</a>	162
<a href="#">Whales and Other Cetaceans:</a>	31
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	1
<a href="#">Australian Marine Parks:</a>	26
<a href="#">Habitat Critical to the Survival of Marine Turtles:</a>	5

## 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>	25
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Nationally Important Wetlands:</a>	11
<a href="#">EPBC Act Referrals:</a>	354
<a href="#">Key Ecological Features (Marine):</a>	14
<a href="#">Biologically Important Areas:</a>	82
<a href="#">Bioregional Assessments:</a>	None
<a href="#">Geological and Bioregional Assessments:</a>	None



# Details

## Matters of National Environmental Significance

### National Heritage Places [\[ Resource Information \]](#)

Name	State	Legal Status
Natural		
<a href="#">The West Kimberley</a>	WA	Listed place

### Wetlands of International Importance (Ramsar Wetlands) [\[ Resource Information \]](#)

Ramsar Site Name	Proximity
<a href="#">Ashmore reef national nature reserve</a>	Within Ramsar site
<a href="#">Cobourg peninsula</a>	Within Ramsar site
<a href="#">Hosnies spring</a>	Within Ramsar site
<a href="#">Kakadu national park</a>	Within 10km of Ramsar site
<a href="#">The dales</a>	Within Ramsar site

### Commonwealth Marine Area [\[ Resource Information \]](#)

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

#### Feature Name

EEZ and Territorial Sea

EEZ and Territorial Sea

EEZ and Territorial Sea

Extended Continental Shelf

Extended Continental Shelf

Extended Continental Shelf

Extended Continental Shelf

Extended Continental Shelf

Extended Continental Shelf

Extended Continental Shelf

Extended Continental Shelf



## Feature Name

Extended Continental Shelf

Extended Continental Shelf

## Listed Threatened Ecological Communities

[ [Resource Information](#) ]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
<a href="#">Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula</a>	Endangered	Community likely to occur within area

## Listed Threatened Species

[ [Resource Information](#) ]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
<b>BIRD</b>		
<a href="#">Accipiter hiogaster natalis</a> Christmas Island Goshawk [82408]	Endangered	Species or species habitat known to occur within area
<a href="#">Anous tenuirostris melanops</a> Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Calidris tenuirostris</a> Great Knot [862]	Critically Endangered	Roosting known to occur within area
<a href="#">Chalcophaps indica natalis</a> Christmas Island Emerald Dove, Emerald Dove (Christmas Island) [67030]	Endangered	Species or species habitat known to occur within area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Charadrius mongolus</a> Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
<a href="#">Epthianura crocea tunneyi</a> Alligator Rivers Yellow Chat, Yellow Chat (Alligator Rivers) [67089]	Endangered	Species or species habitat may occur within area
<a href="#">Erythrotriorchis radiatus</a> Red Goshawk [942]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Erythrura gouldiae</a> Gouldian Finch [413]	Endangered	Species or species habitat known to occur within area
<a href="#">Falco hypoleucos</a> Grey Falcon [929]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Falcunculus frontatus whitei</a> Crested Shrike-tit (northern), Northern Shrike-tit [26013]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Fregata andrewsi</a> Christmas Island Frigatebird, Andrew's Frigatebird [1011]	Endangered	Breeding known to occur within area
<a href="#">Geophaps smithii blaauwi</a> Partridge Pigeon (western) [66501]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Geophaps smithii smithii</a> Partridge Pigeon (eastern) [64441]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Limosa lapponica baueri</a> Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Limosa lapponica menzbieri</a> Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Critically Endangered	Species or species habitat known 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

Scientific Name	Threatened Category	Presence Text
<a href="#">Melanodryas cucullata melvillensis</a> Tiwi Islands Hooded Robin, Hooded Robin (Tiwi Islands) [67092]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Mirafrja javanica melvillensis</a> Horsfield's Bushlark (Tiwi Islands) [81011]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Ninox natalis</a> Christmas Island Hawk-Owl, Christmas Boobook [66671]	Vulnerable	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="#">Papasula abbotti</a> Abbott's Booby [59297]	Endangered	Species or species habitat known to occur within area
<a href="#">Pezoporus occidentalis</a> Night Parrot [59350]	Endangered	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 known to occur within area
<a href="#">Pterodroma arminjoniana</a> Round Island Petrel, Trinidade Petrel [89284]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
<a href="#">Sternula nereis nereis</a> Australian Fairy Tern [82950]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Turdus poliocephalus erythropleurus</a> Christmas Island Thrush [67122]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Tyto novaehollandiae kimberli</a> Masked Owl (northern) [26048]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Tyto novaehollandiae melvillensis</a> Tiwi Masked Owl, Tiwi Islands Masked Owl [26049]	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
<b>FROG</b>		
<a href="#">Uperoleia daviesae</a> Howard River Toadlet, Davies's Toadlet [85375]	Vulnerable	Species or species habitat known to occur within area
<b>MAMMAL</b>		
<a href="#">Antechinus bellus</a> Fawn Antechinus [344]	Vulnerable	Species or species habitat 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="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Migration route known 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="#">Conilurus penicillatus</a> Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma [132]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Crocidura trichura</a> Christmas Island Shrew [86568]	Critically Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Dasyurus hallucatus</a> Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area
<a href="#">Isoodon auratus auratus</a> Golden Bandicoot (mainland) [66665]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Macroderma gigas</a> Ghost Bat [174]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Macrotis lagotis</a> Greater Bilby [282]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Mesembriomys gouldii gouldii</a> Black-footed Tree-rat (Kimberley and mainland Northern Territory), Djintamoonga, Manbul [87618]	Endangered	Species or species habitat known to occur within area
<a href="#">Mesembriomys gouldii melvillensis</a> Black-footed Tree-rat (Melville Island) [87619]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Petrogale concinna canescens</a> Nabarlek (Top End) [87606]	Endangered	Species or species habitat likely to occur within area
<a href="#">Petrogale concinna monastria</a> Nabarlek (Kimberley) [87607]	Endangered	Species or species habitat known to occur within area
<a href="#">Phascogale pirata</a> Northern Brush-tailed Phascogale [82954]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Phascogale tapoatafa kimberleyensis</a> Kimberley brush-tailed phascogale, Brush-tailed Phascogale (Kimberley) [88453]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Pteropus natalis</a> Christmas Island Flying-fox, Christmas Island Fruit-bat [87611]	Critically Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Saccolaimus saccolaimus nudicluniatus</a> Bare-rumped Sheath-tailed Bat, Bare-rumped Sheath-tail Bat [66889]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Sminthopsis butleri</a> Butler's Dunnart [302]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Trichosurus vulpecula arnhemensis</a> Northern Brushtail Possum [83091]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Xeromys myoides</a> Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat known to occur within area
<b>PLANT</b>		
<a href="#">Asplenium listeri</a> Christmas Island Spleenwort [65865]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Burmattia sp. Bathurst Island (R.Fensham 1021)</a> [82017]	Endangered	Species or species habitat likely to occur within area
<a href="#">Elaeocarpus miegei</a> [65147]	Endangered	Species or species habitat known to occur within area
<a href="#">Hoya australis subsp. oramicola</a> a vine [55436]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Mitrella tiwiensis</a> a vine [82029]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Pneumatopteris truncata</a> fern [68812]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Stylidium ensatum</a> a triggerplant [86366]	Endangered	Species or species habitat known to occur within area



Scientific Name	Threatened Category	Presence Text
<a href="#">Tarennoidea wallichii</a> [65173]	Endangered	Species or species habitat known to occur within area
<a href="#">Tectaria devexa</a> [14767]	Endangered	Species or species habitat likely to occur within area
<a href="#">Typhonium jonesii</a> a herb [62412]	Endangered	Species or species habitat known to occur within area
<a href="#">Typhonium mirabile</a> a herb [79227]	Endangered	Species or species habitat known to occur within area
<a href="#">Xylopia monosperma</a> a shrub [82030]	Endangered	Species or species habitat known to occur within area

## REPTILE

<a href="#">Acanthophis hawkei</a> Plains Death Adder [83821]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Aipysurus apraefrontalis</a> Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Aipysurus foliosquama</a> Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat likely 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="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Breeding known to occur within area
<a href="#">Cryptoblepharus egeriae</a> Christmas Island Blue-tailed Skink, Blue-tailed Snake-eyed Skink [1526]	Critically Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Cryptoblepharus gurrumul</a> Arafura Snake-eyed Skink [83106]	Endangered	Species or species habitat known to occur within area
<a href="#">Cyrtodactylus sadleiri</a> Christmas Island Giant Gecko [86865]	Endangered	Species or species habitat known to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
<a href="#">Lepidochelys olivacea</a> Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding known to occur within area
<a href="#">Lepidodactylus listeri</a> Christmas Island Gecko, Lister's Gecko [1711]	Critically 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="#">Ramphotyphlops exocoeti</a> Christmas Island Blind Snake, Christmas Island Pink Blind Snake [1262]	Vulnerable	Species or species habitat likely to occur within area
<b>SHARK</b>		
<a href="#">Carcharias taurus (west coast population)</a> Grey Nurse Shark (west coast population) [68752]	Vulnerable	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="#">Glyphis garricki</a> Northern River Shark, New Guinea River Shark [82454]	Endangered	Breeding known to occur within area
<a href="#">Glyphis glyphis</a> Speartooth Shark [82453]	Critically Endangered	Species or species habitat known to occur within area



Scientific Name	Threatened Category	Presence Text
<a href="#">Pristis clavata</a> Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Breeding 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 known to occur within area
<a href="#">Pristis zijsron</a> Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding 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 known 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]		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="#">Ardenna pacifica</a> Wedge-tailed Shearwater [84292]		Breeding known to occur within area
<a href="#">Calonectris leucomelas</a> Streaked Shearwater [1077]		Species or species habitat known to occur within area
<a href="#">Fregata andrewsi</a> Christmas Island Frigatebird, Andrew's Frigatebird [1011]	Endangered	Breeding known to occur within area
<a href="#">Fregata ariel</a> Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
<a href="#">Fregata minor</a> Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Hydroprogne caspia</a> Caspian Tern [808]		Breeding known 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="#">Onychoprion anaethetus</a> Bridled Tern [82845]		Breeding known to occur within area
<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]		Breeding known to occur within area
<a href="#">Phaethon rubricauda</a> Red-tailed Tropicbird [994]		Breeding known to occur within area
<a href="#">Sterna dougallii</a> Roseate Tern [817]		Breeding known to occur within area
<a href="#">Sternula albifrons</a> Little Tern [82849]		Breeding known to occur within area
<a href="#">Sula dactylatra</a> Masked Booby [1021]		Breeding known to occur within area
<a href="#">Sula leucogaster</a> Brown Booby [1022]		Breeding known to occur within area
<a href="#">Sula sula</a> Red-footed Booby [1023]		Breeding known to occur within area
<b>Migratory Marine Species</b>		
<a href="#">Anoxypristis cuspidata</a> Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat 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="#">Balaenoptera borealis</a> Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour 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	Foraging, feeding or related behaviour 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	Foraging, feeding or related behaviour known to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Breeding known to occur within area
<a href="#">Crocodylus porosus</a> Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
<a href="#">Dugong dugon</a> Dugong [28]		Breeding known to occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
<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
<a href="#">Lepidochelys olivacea</a> Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding known to occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Breeding known to occur within area
<a href="#">Mobula alfredi as Manta alfredi</a> Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area
<a href="#">Mobula birostris as Manta birostris</a> Giant Manta Ray [90034]		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="#">Orcaella heinsohni</a> Australian Snubfin Dolphin [81322]		Breeding 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="#">Pristis clavata</a> Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Breeding 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 known to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Pristis zijsron</a> Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding 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 as Sousa chinensis</a> Australian Humpback Dolphin [87942]		Breeding known 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
<b>Migratory Terrestrial Species</b>		
<a href="#">Cecropis daurica</a> Red-rumped Swallow [80610]		Species or species habitat known to occur within area
<a href="#">Cuculus optatus</a> Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area
<a href="#">Hirundo rustica</a> Barn Swallow [662]		Species or species habitat known to occur within area
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat known to occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat known to occur within area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat known to occur within area
<b>Migratory Wetlands Species</b>		
<a href="#">Acrocephalus orientalis</a> Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area

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="#">Arenaria interpres</a> Ruddy Turnstone [872]		Roosting known to occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Roosting known to occur within area
<a href="#">Calidris alba</a> Sanderling [875]		Roosting known to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat known to occur within area
<a href="#">Calidris ruficollis</a> Red-necked Stint [860]		Roosting known to occur within area
<a href="#">Calidris subminuta</a> Long-toed Stint [861]		Roosting known to occur within area
<a href="#">Calidris tenuirostris</a> Great Knot [862]	Critically Endangered	Roosting known to occur within area
<a href="#">Charadrius dubius</a> Little Ringed Plover [896]		Roosting known to occur within area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Charadrius mongolus</a> Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Charadrius veredus</a> Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area
<a href="#">Gallinago megala</a> Swinhoe's Snipe [864]		Roosting known to occur within area
<a href="#">Gallinago stenura</a> Pin-tailed Snipe [841]		Roosting likely to occur within area
<a href="#">Glareola maldivarum</a> Oriental Pratincole [840]		Roosting known to occur within area
<a href="#">Limicola falcinellus</a> Broad-billed Sandpiper [842]		Roosting known to occur within area
<a href="#">Limnodromus semipalmatus</a> Asian Dowitcher [843]		Species or species habitat known to occur within area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat known to occur within area
<a href="#">Limosa limosa</a> Black-tailed Godwit [845]		Roosting 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="#">Numenius minutus</a> Little Curlew, Little Whimbrel [848]		Roosting known to occur within area
<a href="#">Numenius phaeopus</a> Whimbrel [849]		Roosting known to occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Breeding known to occur within area
<a href="#">Pluvialis fulva</a> Pacific Golden Plover [25545]		Roosting known to occur within area



Scientific Name	Threatened Category	Presence Text
<a href="#">Pluvialis squatarola</a> Grey Plover [865]		Roosting known to occur within area
<a href="#">Thalasseus bergii</a> Greater Crested Tern [83000]		Breeding known to occur within area
<a href="#">Tringa brevipes</a> Grey-tailed Tattler [851]		Roosting known to occur within area
<a href="#">Tringa glareola</a> Wood Sandpiper [829]		Roosting known to occur within area
<a href="#">Tringa incana</a> Wandering Tattler [831]		Roosting known to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
<a href="#">Tringa stagnatilis</a> Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
<a href="#">Tringa totanus</a> Common Redshank, Redshank [835]		Species or species habitat known to occur within area
<a href="#">Xenus cinereus</a> Terek Sandpiper [59300]		Roosting known to occur within area

## Other Matters Protected by the EPBC Act

### Commonwealth Lands [\[ Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State
Attorney-General - Australian Customs Service	
Commonwealth Land - Australian Customs Service [70998]	NT
Attorney-General - Australian Government Solicitor	
Commonwealth Land - Australian Government Solicitor [70208]	NT
Commonwealth Land - Australian Government Solicitor [70996]	NT



Commonwealth Land Name	State
Commonwealth Land - Australian Government Solicitor [70092]	NT
Commonwealth Land - Australian Government Solicitor [70089]	NT
Commonwealth Land - Australian Government Solicitor [70450]	NT
Commonwealth Land - Australian Government Solicitor [70332]	NT
Commonwealth Land - Australian Government Solicitor [71135]	NT
Commonwealth Land - Deputy Crown Solicitor [70994]	NT
Commonwealth Land - Deputy Crown Solicitor [70334]	NT
Commonwealth Land - Deputy Crown Solicitor [70333]	NT
<b>Defence</b>	
Defence - AUSTRALIAN ARMY BAND - DARWIN [70042]	NT
Defence - DARWIN - AP10 RADAR SITE - LEE POINT [70021]	NT
Defence - DARWIN - AP3 RECEIVING STATION - LEE POINT [70044]	NT
Defence - DARWIN RELOCATIONS CENTRE [70045]	NT
Defence - DEFENCE FORCE CAREERS REFERENCE CENTRE [70046]	NT
Defence - Esanda Builidng [70048]	NT
Defence - LARRAKEYAH BARRACKS [70061]	NT
Defence - LEANYER BOMBING RANGE [70022]	NT
Defence - LEANYER BOMBING RANGE [70023]	NT
Defence - LEANYER BOMBING RANGE [70024]	NT
Defence - MT GOODWIN RADAR SITE [70063]	NT
Defence - Patrol Boat Base (DARWIN NAVAL BASE) [70041]	NT
Defence - QUAIL ISLAND BOMBING RANGE [70003]	NT
Defence - RAAF BASE DARWIN [70073]	NT
Defence - SHOAL BAY RECEIVING STATION [70037]	NT
Defence - STOKES HILL OIL FUEL INSTALLATION [70035]	NT
Defence - WINNELLIE TWO [70077]	NT
<b>Defence - Defence Housing Authority</b>	
Commonwealth Land - Director of Property Services Defence Estate [70856]	NT

Commonwealth Land Name	State
Commonwealth Land - Director of Property Services Defence Estate [70855]	NT
<b>Environment and Heritage</b>	
Commonwealth Land - Christmas Island National Park [94104]	CI
Commonwealth Land - Christmas Island National Park [94105]	CI
Commonwealth Land - Christmas Island National Park [94102]	CI
Commonwealth Land - Christmas Island National Park [94101]	CI
Commonwealth Land - Christmas Island National Park [94103]	CI
<b>Family and Community Services - Department of Community Services &amp; Health</b>	
Commonwealth Land - Department of Community Services & Health [70720]	NT
<b>Finance and Administration</b>	
Commonwealth Land - Department of Administrative Services [70590]	NT
Commonwealth Land - Department of Administrative Services [70091]	NT
Commonwealth Land - Department of Administrative Services [70210]	NT
<b>Immigration and Multicultural and Indigenous Affairs - Department of Immigration Local Government and Ethnic Affairs</b>	
Commonwealth Land - Department of Immigration Local Government & Ethnic Affairs [70336]	NT
<b>Transport and Regional Services</b>	
Commonwealth Land - Department of Transport & Regional Development [70207]	NT
<b>Unknown</b>	
Commonwealth Land - [70206]	NT
Commonwealth Land - [70204]	NT
Commonwealth Land - [70591]	NT
Commonwealth Land - [70595]	NT
Commonwealth Land - [70203]	NT
Commonwealth Land - [70593]	NT
Commonwealth Land - [94259]	CI
Commonwealth Land - [94257]	CI
Commonwealth Land - [94255]	CI

Commonwealth Land Name	State
Commonwealth Land - [94245]	CI
Commonwealth Land - [94208]	CI
Commonwealth Land - [70327]	NT
Commonwealth Land - [94276]	CI
Commonwealth Land - [70090]	NT
Commonwealth Land - [94215]	CI
Commonwealth Land - [94214]	CI
Commonwealth Land - [94210]	CI
Commonwealth Land - [94217]	CI
Commonwealth Land - [94218]	CI
Commonwealth Land - [94212]	CI
Commonwealth Land - [94211]	CI
Commonwealth Land - [94233]	CI
Commonwealth Land - [94222]	CI
Commonwealth Land - [94228]	CI
Commonwealth Land - [94220]	CI
Commonwealth Land - [94223]	CI
Commonwealth Land - [94252]	CI
Commonwealth Land - [94250]	CI
Commonwealth Land - [94224]	CI
Commonwealth Land - [94227]	CI
Commonwealth Land - [94225]	CI
Commonwealth Land - [94248]	CI
Commonwealth Land - [94249]	CI
Commonwealth Land - [94247]	CI
Commonwealth Land - [94240]	CI
Commonwealth Land - [94244]	CI

Commonwealth Land Name	State
Commonwealth Land - [94246]	CI
Commonwealth Land - [94242]	CI
Commonwealth Land - [94243]	CI
Commonwealth Land - [70337]	NT
Commonwealth Land - [70335]	NT
Commonwealth Land - [94258]	CI
Commonwealth Land - [70338]	NT
Commonwealth Land - [70999]	NT
Commonwealth Land - [94239]	CI
Commonwealth Land - [94206]	CI
Commonwealth Land - [94207]	CI
Commonwealth Land - [94204]	CI
Commonwealth Land - [94205]	CI
Commonwealth Land - [94219]	CI
Commonwealth Land - [94209]	CI
Commonwealth Land - [94201]	CI
Commonwealth Land - [94213]	CI
Commonwealth Land - [94202]	CI
Commonwealth Land - [94226]	CI
Commonwealth Land - [52278]	ACI
Commonwealth Land - [70594]	NT
Commonwealth Land - [71140]	NT
Commonwealth Land - [94229]	CI
Commonwealth Land - [52276]	ACI
Commonwealth Land - [52277]	ACI
Commonwealth Land - [94277]	CI
Commonwealth Land - [94275]	CI

Commonwealth Land Name	State
Commonwealth Land - [94272]	CI
Commonwealth Land - [94271]	CI
Commonwealth Land - [94278]	CI
Commonwealth Land - [94273]	CI
Commonwealth Land - [94270]	CI
Commonwealth Land - [94203]	CI
Commonwealth Land - [94251]	CI
Commonwealth Land - [94279]	CI
Commonwealth Land - [94280]	CI
Commonwealth Land - [94230]	CI
Commonwealth Land - [94232]	CI
Commonwealth Land - [94236]	CI
Commonwealth Land - [94234]	CI
Commonwealth Land - [94235]	CI
Commonwealth Land - [94254]	CI
Commonwealth Land - [94238]	CI
Commonwealth Land - [94256]	CI
Commonwealth Land - [94264]	CI
Commonwealth Land - [94265]	CI
Commonwealth Land - [94262]	CI
Commonwealth Land - [94260]	CI
Commonwealth Land - [94266]	CI
Commonwealth Land - [94267]	CI
Commonwealth Land - [94268]	CI
Commonwealth Land - [94261]	CI
Commonwealth Land - [94269]	CI
Commonwealth Land - [94274]	CI

Commonwealth Land Name	State
Commonwealth Land - [94237]	CI
Commonwealth Land - [94253]	CI
Commonwealth Land - [94221]	CI
Commonwealth Land - [94263]	CI
Commonwealth Land - [70205]	NT
Commonwealth Land - [94231]	CI
Commonwealth Land - [70993]	NT
Commonwealth Land - [94241]	CI
Commonwealth Land - [70447]	NT
Commonwealth Land - [70995]	NT
Commonwealth Land - [94216]	CI
Commonwealth Land - [70580]	NT

Commonwealth Heritage Places		[ Resource Information ]
Name	State	Status
<b>Historic</b>		
<a href="#">Administrators House Precinct</a>	EXT	Listed place
<a href="#">Bungalow 702</a>	EXT	Listed place
<a href="#">Drumsite Industrial Area</a>	EXT	Listed place
<a href="#">Industrial and Administrative Group</a>	EXT	Listed place
<a href="#">Larrakeyah Barracks Headquarters Building</a>	NT	Listed place
<a href="#">Larrakeyah Barracks Precinct</a>	NT	Listed place
<a href="#">Larrakeyah Barracks Sergeants Mess</a>	NT	Listed place
<a href="#">Malay Kampong Group</a>	EXT	Listed place
<a href="#">Malay Kampong Precinct</a>	EXT	Listed place
<a href="#">Phosphate Hill Historic Area</a>	EXT	Listed place
<a href="#">Poon Saan Group</a>	EXT	Listed place
<a href="#">RAAF Base Commanding Officers Residence</a>	NT	Listed place
<a href="#">RAAF Base Precinct</a>	NT	Listed place

Name	State	Status
<a href="#">RAAF Base Tropical Housing Type 2</a>	NT	Listed place
<a href="#">RAAF Base Tropical Housing Type 3</a>	NT	Listed place
<a href="#">Settlement Christmas Island</a>	EXT	Listed place
<a href="#">South Point Settlement Remains</a>	EXT	Listed place
<b>Natural</b>		
<a href="#">Ashmore Reef National Nature Reserve</a>	EXT	Listed place
<a href="#">Christmas Island Natural Areas</a>	EXT	Listed place
<a href="#">Mermaid Reef - Rowley Shoals</a>	WA	Listed place
<a href="#">Scott Reef and Surrounds - Commonwealth Area</a>	EXT	Listed place

Listed Marine Species		[ Resource Information ]
Scientific Name	Threatened Category	Presence Text
<b>Bird</b>		
<a href="#">Acrocephalus orientalis</a> Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area overfly marine area
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat known to occur within area
<a href="#">Anous minutus</a> Black Noddy [824]		Breeding known to occur within area
<a href="#">Anous stolidus</a> Common Noddy [825]		Breeding known to occur within area
<a href="#">Anous tenuirostris melanops</a> Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
<a href="#">Anseranas semipalmata</a> Magpie Goose [978]		Species or species habitat may occur within area overfly marine 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="#">Ardena pacifica as Puffinus pacificus</a> Wedge-tailed Shearwater [84292]		Breeding known to occur within area
<a href="#">Arenaria interpres</a> Ruddy Turnstone [872]		Roosting known to occur within area
<a href="#">Bubulcus ibis as Ardea ibis</a> Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Roosting known to occur within area
<a href="#">Calidris alba</a> Sanderling [875]		Roosting known to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area overfly marine area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area
<a href="#">Calidris ruficollis</a> Red-necked Stint [860]		Roosting known to occur within area overfly marine area
<a href="#">Calidris subminuta</a> Long-toed Stint [861]		Roosting known to occur within area overfly marine area
<a href="#">Calidris tenuirostris</a> Great Knot [862]	Critically Endangered	Roosting known to occur within area overfly marine area



Scientific Name	Threatened Category	Presence Text
<a href="#">Calonectris leucomelas</a> Streaked Shearwater [1077]		Species or species habitat known to occur within area
<a href="#">Cecropis daurica as Hirundo daurica</a> Red-rumped Swallow [80610]		Species or species habitat known to occur within area overfly marine area
<a href="#">Chalcites osculans as Chrysococcyx osculans</a> Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area
<a href="#">Charadrius dubius</a> Little Ringed Plover [896]		Roosting known to occur within area overfly marine area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Charadrius mongolus</a> Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
<a href="#">Charadrius ruficapillus</a> Red-capped Plover [881]		Roosting known to occur within area overfly marine area
<a href="#">Charadrius veredus</a> Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area overfly marine area
<a href="#">Chroicocephalus novaehollandiae as Larus novaehollandiae</a> Silver Gull [82326]		Breeding known to occur within area
<a href="#">Fregata andrewsi</a> Christmas Island Frigatebird, Andrew's Frigatebird [1011]	Endangered	Breeding known to occur within area
<a href="#">Fregata ariel</a> Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
<a href="#">Fregata minor</a> Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Gallinago megala</a> Swinhoe's Snipe [864]		Roosting known to occur within area overfly marine area
<a href="#">Gallinago stenura</a> Pin-tailed Snipe [841]		Roosting likely to occur within area overfly marine area
<a href="#">Glareola maldivarum</a> Oriental Pratincole [840]		Roosting known to occur within area overfly marine area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
<a href="#">Himantopus himantopus</a> Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area
<a href="#">Hirundo rustica</a> Barn Swallow [662]		Species or species habitat known to occur within area overfly marine area
<a href="#">Hydroprogne caspia as Sterna caspia</a> Caspian Tern [808]		Breeding known to occur within area
<a href="#">Limicola falcinellus</a> Broad-billed Sandpiper [842]		Roosting known to occur within area overfly marine area
<a href="#">Limnodromus semipalmatus</a> Asian Dowitcher [843]		Species or species habitat known to occur within area overfly marine area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat known to occur within area
<a href="#">Limosa limosa</a> Black-tailed Godwit [845]		Roosting known to occur within area overfly marine area

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="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat known to occur within area overfly marine area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat known to occur within area overfly marine 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="#">Numenius minutus</a> Little Curlew, Little Whimbrel [848]		Roosting known to occur within area overfly marine area
<a href="#">Numenius phaeopus</a> Whimbrel [849]		Roosting known to occur within area
<a href="#">Onychoprion anaethetus as Sterna anaethetus</a> Bridled Tern [82845]		Breeding known to occur within area
<a href="#">Onychoprion fuscatus as Sterna fuscata</a> Sooty Tern [90682]		Breeding known to occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Breeding known to occur within area
<a href="#">Papasula abbotti</a> Abbott's Booby [59297]	Endangered	Species or species habitat known to occur within area
<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Phaethon lepturus fulvus</a> Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat known to occur within area
<a href="#">Phaethon rubricauda</a> Red-tailed Tropicbird [994]		Breeding known to occur within area
<a href="#">Pluvialis fulva</a> Pacific Golden Plover [25545]		Roosting known to occur within area
<a href="#">Pluvialis squatarola</a> Grey Plover [865]		Roosting known to occur within area overfly marine area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area
<a href="#">Rostratula australis as Rostratula benghalensis (sensu lato)</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area
<a href="#">Sterna dougallii</a> Roseate Tern [817]		Breeding known to occur within area
<a href="#">Sternula albifrons as Sterna albifrons</a> Little Tern [82849]		Breeding known to occur within area
<a href="#">Sternula nereis as Sterna nereis</a> Fairy Tern [82949]		Breeding known to occur within area
<a href="#">Stiltia isabella</a> Australian Pratincole [818]		Roosting known to occur within area overfly marine area
<a href="#">Sula dactylatra</a> Masked Booby [1021]		Breeding known to occur within area
<a href="#">Sula leucogaster</a> Brown Booby [1022]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Sula sula</a> Red-footed Booby [1023]		Breeding known to occur within area
<a href="#">Thalasseus bengalensis as Sterna bengalensis</a> Lesser Crested Tern [66546]		Breeding known to occur within area
<a href="#">Thalasseus bergii as Sterna bergii</a> Greater Crested Tern [83000]		Breeding known to occur within area
<a href="#">Tringa brevipes as Heteroscelus brevipes</a> Grey-tailed Tattler [851]		Roosting known to occur within area
<a href="#">Tringa glareola</a> Wood Sandpiper [829]		Roosting known to occur within area overfly marine area
<a href="#">Tringa incana as Heteroscelus incanus</a> Wandering Tattler [831]		Roosting known to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area overfly marine area
<a href="#">Tringa stagnatilis</a> Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area
<a href="#">Tringa totanus</a> Common Redshank, Redshank [835]		Species or species habitat known to occur within area overfly marine area
<a href="#">Xenus cinereus</a> Terek Sandpiper [59300]		Roosting known to 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="#">Bhanotia fasciolata</a> Corrugated Pipefish, Barbed Pipefish [66188]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Bulbonaricus brauni</a> Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		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="#">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 sculptus</a> Sculptured Pipefish [66197]		Species or species habitat may occur within area
<a href="#">Choeroichthys suillus</a> Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
<a href="#">Corythoichthys amplexus</a> Fijian Banded Pipefish, Brown-banded Pipefish [66199]		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="#">Corythoichthys haematopterus</a> Reef-top Pipefish [66201]		Species or species habitat may occur within area
<a href="#">Corythoichthys intestinalis</a> Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area
<a href="#">Corythoichthys schultzi</a> Schultz's Pipefish [66205]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Cosmocampus banneri</a> Roughridge Pipefish [66206]		Species or species habitat may occur within area
<a href="#">Cosmocampus maxweberi</a> Maxweber's Pipefish [66209]		Species or species habitat may occur within area
<a href="#">Doryrhamphus baldwini</a> Redstripe Pipefish [66718]		Species or species habitat may occur within area
<a href="#">Doryrhamphus dactyliophorus</a> Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
<a href="#">Doryrhamphus excisus</a> Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		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
<a href="#">Doryrhamphus multiannulatus</a> Many-banded Pipefish [66717]		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="#">Festucalex cinctus</a> Girdled Pipefish [66214]		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="#">Filicampus tigris</a> Tiger Pipefish [66217]		Species or species habitat may occur within area



Scientific Name	Threatened Category	Presence Text
<a href="#">Halicampus brocki</a> Brock's Pipefish [66219]		Species or species habitat may occur within area
<a href="#">Halicampus dunckeri</a> Red-hair Pipefish, Duncker's Pipefish [66220]		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="#">Halicampus macrorhynchus</a> Whiskered Pipefish, Ornate Pipefish [66222]		Species or species habitat may occur within area
<a href="#">Halicampus mataafae</a> Samoan Pipefish [66223]		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="#">Halicampus spinirostris</a> Spiny-snout Pipefish [66225]		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="#">Hippichthys cyanospilos</a> Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
<a href="#">Hippichthys heptagonus</a> Madura Pipefish, Reticulated Freshwater Pipefish [66229]		Species or species habitat may occur within area
<a href="#">Hippichthys parvicarinatus</a> Short-keel Pipefish, Short-keeled Pipefish [66230]		Species or species habitat may occur within area



Scientific Name	Threatened Category	Presence Text
<a href="#">Hippichthys penicillus</a> Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
<a href="#">Hippichthys spicifer</a> Belly-barred Pipefish, Banded Freshwater Pipefish [66232]		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="#">Hippocampus histrix</a> Spiny Seahorse, Thorny Seahorse [66236]		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="#">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
<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="#">Micrognathus brevis</a> thorntail Pipefish, Thorn-tailed Pipefish [66254]		Species or species habitat may occur within area
<a href="#">Micrognathus micronotus</a> Tidepool Pipefish [66255]		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

Scientific Name	Threatened Category	Presence Text
<a href="#">Solegnathus hardwickii</a> Pallid Pipehorse, Hardwick's Pipehorse [66272]		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="#">Solenostomus cyanopterus</a> Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		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="#">Trachyrhamphus bicoarctatus</a> Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		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
<b>Mammal</b>		
<a href="#">Dugong dugon</a> Dugong [28]		Breeding known to occur within area
<b>Reptile</b>		
<a href="#">Acalyptophis peronii</a> Horned Seasnake [1114]		Species or species habitat may occur within area
<a href="#">Aipysurus apraefrontalis</a> Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Aipysurus duboisii</a> Dubois' Seasnake [1116]		Species or species habitat may occur within area
<a href="#">Aipysurus eydouxii</a> Spine-tailed Seasnake [1117]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Aipysurus foliosquama</a> Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Aipysurus fuscus</a> Dusky Seasnake [1119]		Species or species habitat known to occur within area
<a href="#">Aipysurus laevis</a> Olive Seasnake [1120]		Species or species habitat may occur within area
<a href="#">Aipysurus tenuis</a> Brown-lined Seasnake [1121]		Species or species habitat may occur within area
<a href="#">Astrotia stokesii</a> Stokes' Seasnake [1122]		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="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Breeding known to occur within area
<a href="#">Chitulia inornata as Hydrophis inornatus</a> Plain Seasnake [87379]		Species or species habitat may occur within area
<a href="#">Chitulia ornata as Hydrophis ornatus</a> Spotted Seasnake, Ornate Reef Seasnake [87377]		Species or species habitat may occur within area
<a href="#">Crocodylus johnstoni</a> Freshwater Crocodile, Johnston's Crocodile, Johnstone's Crocodile [1773]		Species or species habitat may occur within area
<a href="#">Crocodylus porosus</a> Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
<a href="#">Disteira kingii</a> Spectacled Seasnake [1123]		Species or species habitat may occur within area
<a href="#">Disteira major</a> Olive-headed Seasnake [1124]		Species or species habitat may occur within area
<a href="#">Emydocephalus annulatus</a> Turtle-headed Seasnake [1125]		Species or species habitat may occur within area
<a href="#">Enhydrina schistosa</a> Beaked Seasnake [1126]		Species or species habitat may occur within area
<a href="#">Ephalophis greyi</a> North-western Mangrove Seasnake [1127]		Species or species habitat may occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
<a href="#">Hydrelaps darwiniensis</a> Black-ringed Seasnake [1100]		Species or species habitat may occur within area
<a href="#">Hydrophis atriceps</a> Black-headed Seasnake [1101]		Species or species habitat may occur within area
<a href="#">Hydrophis elegans</a> Elegant Seasnake [1104]		Species or species habitat may occur within area
<a href="#">Hydrophis macdowelli as Hydrophis mcdowelli</a> Small-headed Seasnake [75601]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Lapemis curtus as Lapemis hardwickii</a> Spine-bellied Seasnake [83554]		Species or species habitat may occur within area
<a href="#">Leioselasma coggeri as Hydrophis coggeri</a> Black-headed Sea Snake, Slender-necked Seasnake [87373]		Species or species habitat may occur within area
<a href="#">Leioselasma czeblukovi as Hydrophis czeblukovi</a> Fine-spined Seasnake, Geometrical Seasnake [87374]		Species or species habitat may occur within area
<a href="#">Leioselasma pacifica as Hydrophis pacificus</a> Large-headed Seasnake, Pacific Seasnake [87378]		Species or species habitat may occur within area
<a href="#">Lepidochelys olivacea</a> Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding known to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
<a href="#">Parahydrophis mertoni</a> Northern Mangrove Seasnake [1090]		Species or species habitat may occur within area
<a href="#">Pelamis platurus</a> Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

## Whales and Other Cetaceans [ [Resource Information](#) ]

Current Scientific Name	Status	Type of Presence
Mammal		
<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	Foraging, feeding or related behaviour likely to occur within area

Current Scientific Name	Status	Type of Presence
<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	Foraging, feeding or related behaviour 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="#">Feresa attenuata</a> Pygmy Killer Whale [61]		Species or species habitat may occur within area
<a href="#">Globicephala macrorhynchus</a> Short-finned Pilot Whale [62]		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="#">Indopacetus pacificus</a> Longman's Beaked Whale [72]		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="#">Kogia sima as Kogia simus</a> Dwarf Sperm Whale [85043]		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

Current Scientific Name	Status	Type of Presence
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Breeding 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="#">Mesoplodon ginkgodens</a> Ginkgo-toothed Beaked Whale, Ginkgo-toothed Whale, Ginkgo Beaked Whale [59564]		Species or species habitat may occur within area
<a href="#">Orcaella heinsohni as Orcaella brevirostris</a> Australian Snubfin Dolphin [81322]		Breeding known to occur within area
<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		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="#">Physeter macrocephalus</a> Sperm Whale [59]		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="#">Sousa sahalensis as Sousa chinensis</a> Australian Humpback Dolphin [87942]		Breeding known to occur within area
<a href="#">Stenella attenuata</a> Spotted Dolphin, Pantropical Spotted Dolphin [51]		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="#">Stenella longirostris</a> Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area



Current Scientific Name	Status	Type of Presence
<a href="#">Steno bredanensis</a> Rough-toothed Dolphin [30]		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="#">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="#">Tursiops truncatus s. str.</a> Bottlenose Dolphin [68417]		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

Commonwealth Reserves Terrestrial			[ <a href="#">Resource Information</a> ]
Name	State	Type	
Christmas Island	EXT	National Park (Commonwealth)	

Australian Marine Parks		[ <a href="#">Resource Information</a> ]
Park Name	Zone & IUCN Categories	
Christmas Island	Habitat Protection Zone (IUCN IV)	
Kimberley	Habitat Protection Zone (IUCN IV)	
Kimberley	Habitat Protection Zone (IUCN IV)	
Oceanic Shoals	Habitat Protection Zone (IUCN IV)	
Arafura	Multiple Use Zone (IUCN VI)	
Argo-Rowley Terrace	Multiple Use Zone (IUCN VI)	
Argo-Rowley Terrace	Multiple Use Zone (IUCN VI)	
Joseph Bonaparte Gulf	Multiple Use Zone (IUCN VI)	
Kimberley	Multiple Use Zone (IUCN VI)	



Park Name	Zone & IUCN Categories
Oceanic Shoals	Multiple Use Zone (IUCN VI)
Oceanic Shoals	Multiple Use Zone (IUCN VI)
Argo-Rowley Terrace	National Park Zone (IUCN II)
Christmas Island	National Park Zone (IUCN II)
Cocos (Keeling) Islands	National Park Zone (IUCN II)
Kimberley	National Park Zone (IUCN II)
Mermaid Reef	National Park Zone (IUCN II)
Oceanic Shoals	National Park Zone (IUCN II)
Ashmore Reef	Recreational Use Zone (IUCN IV)
Ashmore Reef	Sanctuary Zone (IUCN Ia)
Cartier Island	Sanctuary Zone (IUCN Ia)
Arafura	Special Purpose Zone (IUCN VI)
Arnhem	Special Purpose Zone (IUCN VI)
Joseph Bonaparte Gulf	Special Purpose Zone (IUCN VI)
Arafura	Special Purpose Zone (Trawl) (IUCN VI)
Argo-Rowley Terrace	Special Purpose Zone (Trawl) (IUCN VI)
Oceanic Shoals	Special Purpose Zone (Trawl) (IUCN VI)

### Habitat Critical to the Survival of Marine Turtles

Scientific Name	Behaviour	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

Scientific Name	Behaviour	Presence
<a href="#">Dermochelys coriacea</a> Leatherback Turtle [1768]	Nesting	Known to occur
May - Jul		
<a href="#">Lepidochelys olivacea</a> Olive Ridley Turtle [1767]	Nesting	Known to occur
Nov - May		
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Nesting	Known to occur

## Extra Information

State and Territory Reserves		<a href="#">[ Resource Information ]</a>
Protected Area Name	Reserve Type	State
Adele Island	Nature Reserve	WA
Bardi Jawi	Indigenous Protected Area	WA
Browse Island	Nature Reserve	WA
Casuarina	Coastal Reserve	NT
Charles Darwin	National Park	NT
Dambimangari	Indigenous Protected Area	WA
Djukbinj	National Park	NT
Garig Gunak Barlu	National Park	NT
Garig Gunak Barlu	Marine Park	NT
Holmes Jungle	Nature Park	NT
Lacepede Islands	Nature Reserve	WA
Lalang-garram / Camden Sound	Marine Park	WA
Low Rocks	Nature Reserve	WA
Marri-Jabin (Thamurrurr - Stage 1)	Indigenous Protected Area	NT
Niiwalarra Islands	National Park	WA
North Kimberley	Marine Park	WA

Protected Area Name	Reserve Type	State
North Lalang-garram	Marine Park	WA
Rowley Shoals	Marine Park	WA
Scott Reef	Nature Reserve	WA
Tanner Island	Nature Reserve	WA
Unnamed WA28968	5(1)(h) Reserve	WA
Unnamed WA41775	5(1)(h) Reserve	WA
Unnamed WA44669	5(1)(h) Reserve	WA
Unnamed WA44673	5(1)(h) Reserve	WA
Uunguu	Indigenous Protected Area	WA

## Nationally Important Wetlands [\[ Resource Information \]](#)

Wetland Name	State
<a href="#">"The Dales", Christmas Island</a>	EXT
<a href="#">Adelaide River Floodplain System</a>	NT
<a href="#">Ashmore Reef</a>	EXT
<a href="#">Cobourg Peninsula System</a>	NT
<a href="#">Daly-Reynolds Floodplain-Estuary System</a>	NT
<a href="#">Finniss Floodplain and Fog Bay Systems</a>	NT
<a href="#">Hosine's Spring, Christmas Island</a>	EXT
<a href="#">Mermaid Reef</a>	EXT
<a href="#">Murgarella-Cooper Floodplain System</a>	NT
<a href="#">Port Darwin</a>	NT
<a href="#">Shoal Bay - Micket Creek</a>	NT

## EPBC Act Referrals [\[ Resource Information \]](#)

Title of referral	Reference	Referral Outcome	Assessment Status
<a href="#">Browse to North West Shelf Development, Indian Ocean, WA</a>	2018/8319		Approval
<a href="#">Darwin Pipeline Duplication (DPD) Project</a>	2022/09372		Referral Decision

Title of referral	Reference	Referral Outcome	Assessment Status
<a href="#">Darwin Pipeline Duplication DPD Project</a>	2022/9166		Completed
<a href="#">Northern Endeavour Phase 1 Decommissioning</a>	2022/09327		Referral Decision
<a href="#">Ocean Barramundi Expansion Project</a>	2022/09272		Assessment
<a href="#">Project Highclere Cable Lay and Operation</a>	2022/09203		Completed
<a href="#">Tiwi H2 Project</a>	2022/09347		Referral Decision
<b>Controlled action</b>			
<a href="#">2-D seismic survey Scott Reef</a>	2000/125	Controlled Action	Post-Approval
<a href="#">Andranangoo Creek &amp; Lethbridge Bay mineral sand mining</a>	2005/2155	Controlled Action	Completed
<a href="#">Audacious Oil Field Standalone Development</a>	2001/407	Controlled Action	Completed
<a href="#">Augmentation of the East Point Effluent Rising Main and Extension of East Point Outfall</a>	2009/5113	Controlled Action	Post-Approval
<a href="#">Australia-ASEAN Power Link</a>	2020/8818	Controlled Action	Proposed Decision
<a href="#">Barramundi Nursery Farm</a>	2005/2378	Controlled Action	Completed
<a href="#">Bayview, The Boulevarde, Darwin, NT</a>	2015/7466	Controlled Action	Assessment Approach
<a href="#">Bonaparte Liquified Natural Gas Project</a>	2011/6141	Controlled Action	Post-Approval
<a href="#">Browse FLNG Development, Commonwealth Waters</a>	2013/7079	Controlled Action	Post-Approval
<a href="#">Christmas Island Airport Expansion</a>	2001/434	Controlled Action	Post-Approval
<a href="#">Christmas Island Port Facility</a>	2001/435	Controlled Action	Post-Approval
<a href="#">Clarence Strait Offshore Tidal Energy Project</a>	2008/4660	Controlled Action	Assessment Approach
<a href="#">Conduct an exploration drilling campaign</a>	2010/5718	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Controlled action</b>			
<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="#">Construction of mobile phone tower</a>	2002/694	Controlled Action	Completed
<a href="#">Cultural Appearance Upgrade of the Chinese Literary Association Building</a>	2007/3568	Controlled Action	Completed
<a href="#">Darwin to Moomba Gas Pipeline</a>	2001/213	Controlled Action	Completed
<a href="#">Decommissioning of Buffalo Oil Field</a>	2003/984	Controlled Action	Post-Approval
<a href="#">Decommissioning of Challis Oilfield</a>	2003/942	Controlled Action	Post-Approval
<a href="#">Develop Ichthys gas-condensate field permit area W</a>	2006/2767	Controlled Action	Completed
<a href="#">Develop Jansz-10 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 Angel gas and condensate field, North West Shelf</a>	2004/1805	Controlled Action	Post-Approval
<a href="#">Development of Blacktip Gas Field</a>	2003/1180	Controlled Action	Post-Approval
<a href="#">Development of Browse Basin Gas Fields (Upstream)</a>	2008/4111	Controlled Action	Completed
<a href="#">East Arm Marine Industry Park, Darwin, NT</a>	2014/7318	Controlled Action	Completed
<a href="#">East Christmas Island Phosphate Mines (9 sites)</a>	2001/487	Controlled Action	Completed
<a href="#">Echo-Yodel Production Wells</a>	2000/11	Controlled Action	Post-Approval
<a href="#">Equus Gas Fields Development Project, Carnarvon Basin</a>	2012/6301	Controlled Action	Completed
<a href="#">Exploration for Mineable Phosphate, Christmas Island</a>	2000/43	Controlled Action	Completed
<a href="#">Floating Liquefied Natural Gas facility</a>	2001/533	Controlled Action	Completed
<a href="#">Glyde Point and Middle Arm Peninsula Infrastructure Support</a>	2001/334	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Controlled action</b>			
<a href="#">Glyde Point Industrial Estate</a>	2001/336	Controlled Action	Completed
<a href="#">Glyde Point Industrial Estate and Associated Infrastructure</a>	2004/1506	Controlled Action	Completed
<a href="#">Gorgon Gas Development</a>	2003/1294	Controlled Action	Post-Approval
<a href="#">Gorgon Gas Development 4th Train Proposal</a>	2011/5942	Controlled Action	Post-Approval
<a href="#">Hardwood Plantation</a>	2001/229	Controlled Action	Post-Approval
<a href="#">Ichthys Gas Field, Offshore and onshore processing facilities and subsea pipeline</a>	2008/4208	Controlled Action	Post-Approval
<a href="#">Kilimiraka Mineral Sands and Associated Infrastructure (Bathurst Island), NT</a>	2012/6587	Controlled Action	Assessment Approach
<a href="#">Lee Point Master-planned urban development, Darwin, NT</a>	2015/7591	Controlled Action	Post-Approval
<a href="#">Lily Beach Recreational Facilities</a>	2001/395	Controlled Action	Post-Approval
<a href="#">Lily Beach Rock Pool Development</a>	2001/400	Controlled Action	Completed
<a href="#">Methanol Plant</a>	2001/195	Controlled Action	Completed
<a href="#">Middle Arm Peninsula Industrial Area Development</a>	2001/339	Controlled Action	Completed
<a href="#">Montara 4, 5, and 6 Oil Production Wells, and Montara 3 Gas Re-Injection Well</a>	2002/755	Controlled Action	Post-Approval
<a href="#">Muirhead Subdivision</a>	2010/5525	Controlled Action	Post-Approval
<a href="#">Nava-1 Cable System</a>	2001/510	Controlled Action	Completed
<a href="#">Operation of 17 Tiger Helicopters at Robertson Barracks</a>	2004/1459	Controlled Action	Post-Approval
<a href="#">Phosphate Mining in South Point Christmas Island</a>	2012/6653	Controlled Action	Post-Approval
<a href="#">Pluto Gas Project</a>	2005/2258	Controlled Action	Completed



Title of referral	Reference	Referral Outcome	Assessment Status
<b>Controlled action</b>			
<a href="#">Pluto Gas Project Including Site B</a>	2006/2968	Controlled Action	Post-Approval
<a href="#">Pluton Irvine Island Iron Ore Project</a>	2011/6064	Controlled Action	Proposed Decision
<a href="#">Prelude Floating Liquefied Natural Gas Facility and Gas Field Development</a>	2008/4146	Controlled Action	Post-Approval
<a href="#">Proposed exploration drilling programme for Christmas Island</a>	2016/7779	Controlled Action	Completed
<a href="#">PTTEP AA Floating LNG Facility</a>	2011/6025	Controlled Action	Completed
<a href="#">Replacement of the East Point Outfall</a>	2011/6099	Controlled Action	Assessment Approach
<a href="#">Residential subdivision of Lot 9793 (formerly Lots 9774 and 9779) Lee Point Road</a>	2005/2108	Controlled Action	Post-Approval
<a href="#">Road Upgrade/Construction between Lily Beach Road and Port Faci</a>	2001/436	Controlled Action	Post-Approval
<a href="#">Salvage, transport and processing of phosphate resource with extended airport si</a>	2003/1217	Controlled Action	Post-Approval
<a href="#">Shipping Channel Enhancement</a>	2010/5431	Controlled Action	Completed
<a href="#">Snake Bay Barramundi Sea Cage Farm</a>	2005/2150	Controlled Action	Completed
<a href="#">Talisman Saber 2005 Military Exercise</a>	2004/1819	Controlled Action	Post-Approval
<a href="#">Tassie Shoal Gas Reforming and Methanol Production Plants - NT/P48</a>	2000/108	Controlled Action	Post-Approval
<a href="#">Tassie Shoal LNG Project</a>	2003/1067	Controlled Action	Post-Approval
<a href="#">Torosa South Initial Appraisal Drilling</a>	2007/3500	Controlled Action	Completed
<a href="#">Tropical Tidal Testing Centre, Clarence Strait, 50km NE Darwin</a>	2014/7299	Controlled Action	Guidelines Issued
<a href="#">Yellow Crazy Ant Biological Control</a>	2013/6836	Controlled Action	Post-Approval

**Not controlled action**

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action</b>			
<a href="#">'Goodwyn A' Low Pressure Train Project</a>	2003/914	Not Controlled Action	Completed
<a href="#">2D seismic survey, exploration permit NT/P67</a>	2004/1587	Not Controlled Action	Completed
<a href="#">2D Seismic Survey in Permit Areas WA-318-P &amp; WA-319-P, near Cape Londonderry</a>	2004/1687	Not Controlled Action	Completed
<a href="#">3D marine seismic survey in WA 314P and WA 315P</a>	2004/1927	Not Controlled Action	Completed
<a href="#">96-108 Gaze Road - Residential upgrade</a>	2006/2632	Not Controlled Action	Completed
<a href="#">Adele Trend TQ3D Seismic Survey</a>	2001/252	Not Controlled Action	Completed
<a href="#">AEC International Hydrocarbon Well Puffin 6</a>	2000/36	Not Controlled Action	Completed
<a href="#">Aerial Baiting, Yellow Crazy Ant Supercolonies, Christmas Island, WA</a>	2019/8492	Not Controlled Action	Completed
<a href="#">Andranangoo Mine Site Aircraft Landing Area</a>	2007/3743	Not Controlled Action	Completed
<a href="#">APX-West Fibre-optic telecommunications cable system, WA to Singapore</a>	2013/7102	Not Controlled Action	Completed
<a href="#">Aquaculture - Barramundi grow out, Yampi Sound</a>	2005/2476	Not Controlled Action	Completed
<a href="#">Audacious-3 oil drilling well</a>	2003/1042	Not Controlled Action	Completed
<a href="#">Backpacker-1 Offshore Hydrocarbon Exploration Well</a>	2001/300	Not Controlled Action	Completed
<a href="#">Barossa-1 (NT/P69), Caldita-2 (NT/P61) exploration wells</a>	2006/2793	Not Controlled Action	Completed
<a href="#">Boat Ramp Construction</a>	2001/237	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="#">Buffalo In-Fill Production Wells</a>	2001/475	Not Controlled Action	Completed
<a href="#">Building of a carport adjacent to residential house</a>	2004/1538	Not Controlled Action	Completed



Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action</b>			
<a href="#">Caldita-1 Hydrocarbon Exploration Well, NT/P61</a>	2004/1854	Not Controlled Action	Completed
<a href="#">Cazadores 2D seismic survey</a>	2004/1720	Not Controlled Action	Completed
<a href="#">Channel Island Bridge Pipeline Replacement Project</a>	2020/8672	Not Controlled Action	Completed
<a href="#">Christmas Island/Construction of a double storey shed/carport at MQ387 Gaze Road</a>	2004/1561	Not Controlled Action	Completed
<a href="#">Christmas Island Fuel Consolidation Project, Christmas Island</a>	2012/6454	Not Controlled Action	Completed
<a href="#">Community Recreation Centre</a>	2003/1279	Not Controlled Action	Completed
<a href="#">Construction and operation of Radar Infrastructure</a>	2004/1406	Not Controlled Action	Completed
<a href="#">Controlled Source Electromagnetic 2D Survey</a>	2009/4980	Not Controlled Action	Completed
<a href="#">Controlled Source Electromagnetic Survey</a>	2010/5434	Not Controlled Action	Completed
<a href="#">Controlled Source Electromagnetic Survey</a>	2007/3262	Not Controlled Action	Completed
<a href="#">Coot-1 hydrocarbon exploration well, Permit Area AC/L2 or AC/L3</a>	2001/296	Not Controlled Action	Completed
<a href="#">courtyard shower &amp; handbasin facilities</a>	2006/2803	Not Controlled Action	Completed
<a href="#">Cox Peninsular Remediation Project, NT</a>	2015/7587	Not Controlled Action	Completed
<a href="#">Crux-A and Crux-B appraisal wells, Petroleum Permit Area AC/P23</a>	2006/2748	Not Controlled Action	Completed
<a href="#">Crux gas-liquids development in permit AC/P23</a>	2006/3154	Not Controlled Action	Completed
<a href="#">Darwin Port Maintenance Dredging, Darwin Harbour, NT</a>	2017/8122	Not Controlled Action	Completed
<a href="#">Development of Mutineer and Exeter petroleum fields for oil production, Permit</a>	2003/1033	Not Controlled Action	Completed
<a href="#">Drilling of 12 Hydrocarbon Exploration Wells, Permit Area WA-371-P</a>	2006/3005	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action</b>			
<a href="#">Drilling of exploration well Audacious-1 in AC/P17</a>	2000/5	Not Controlled Action	Completed
<a href="#">Drilling of exploration wells, Permit areas WA-301-P to WA-305-P</a>	2002/769	Not Controlled Action	Completed
<a href="#">Drilling of Marina-1 Exploration Well</a>	2007/3586	Not Controlled Action	Completed
<a href="#">Dwelling demolition, maintenance and carpark/carport/storage shed works</a>	2004/1837	Not Controlled Action	Completed
<a href="#">Echo A Development WA-23-L, WA-24-L</a>	2005/2042	Not Controlled Action	Completed
<a href="#">Echuca Shoals-2 Exploration of Appraisal Well</a>	2006/3020	Not Controlled Action	Completed
<a href="#">Exploration Drilling in AC/P17, AC/P18 and AC/P24</a>	2001/359	Not Controlled Action	Completed
<a href="#">Exploration of appraisal wells</a>	2006/3065	Not Controlled Action	Completed
<a href="#">Exploration Well AC/P23</a>	2001/234	Not Controlled Action	Completed
<a href="#">Extension of a Masonary Brick Wall adjacent to the Poon Saan Club by 500 mm</a>	2004/1564	Not Controlled Action	Completed
<a href="#">Flying Fish Cove Christmas Island Boat Ramp Maintenance</a>	2021/8924	Not Controlled Action	Completed
<a href="#">Flying Fish Cove Landslide Mitigation Project</a>	2020/8616	Not Controlled Action	Completed
<a href="#">Garage and Office Facilities</a>	2004/1919	Not Controlled Action	Completed
<a href="#">Geo-scientific survey</a>	2005/2004	Not Controlled Action	Completed
<a href="#">Hess Exploration Drilling Programme</a>	2007/3566	Not Controlled Action	Completed
<a href="#">Housing and Garden Maintenance Works</a>	2004/1487	Not Controlled Action	Completed
<a href="#">Huascaran-1 exploration well (WA-292-P)</a>	2001/539	Not Controlled Action	Completed
<a href="#">Hydroponics Research Program</a>	2007/3338	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action</b>			
<a href="#">Identification of unmarked grave, exhumation/identification of remains which may belong to a sailor</a>	2006/2992	Not Controlled Action	Completed
<a href="#">INDIGO West Submarine Telecommunications Cable, WA</a>	2017/8126	Not Controlled Action	Completed
<a href="#">Internal and external modifications Lot 1014 Gaze Road</a>	2004/1807	Not Controlled Action	Completed
<a href="#">Jansz-2 and 3 Appraisal Wells</a>	2002/754	Not Controlled Action	Completed
<a href="#">Kaleidoscope exploration well</a>	2001/182	Not Controlled Action	Completed
<a href="#">Light Industrial Subdivision Development</a>	2004/1799	Not Controlled Action	Completed
<a href="#">Lot 1056 Extensions and Alterations</a>	2004/1801	Not Controlled Action	Completed
<a href="#">Maia-Gaea Exploration wells</a>	2000/17	Not Controlled Action	Completed
<a href="#">Maintenance of Tai Jin House, Smith Point</a>	2009/4933	Not Controlled Action	Completed
<a href="#">Manaslu - 1 and Huascarán - 1 Offshore Exploration Wells</a>	2001/235	Not Controlled Action	Completed
<a href="#">Marine Seismic Survey in WA-239-P</a>	2000/24	Not Controlled Action	Completed
<a href="#">Marine Survey for the Australia-ASEAN Power Link AAPL</a>	2020/8714	Not Controlled Action	Completed
<a href="#">Mobile Radio Communications System Upgrade</a>	2002/718	Not Controlled Action	Completed
<a href="#">Montara-3 Offshore Hydrocarbon Exploration Well Permit Area AC/RL3</a>	2001/489	Not Controlled Action	Completed
<a href="#">Nexus Drilling Program NT-P66</a>	2007/3745	Not Controlled Action	Completed
<a href="#">North Rankin B gas compression facility</a>	2005/2500	Not Controlled Action	Completed
<a href="#">NT/P68 2007 Two Well Drilling Program</a>	2007/3569	Not Controlled Action	Completed
<a href="#">P30 Hydrocarbon Exploration Well</a>	2001/293	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action</b>			
<a href="#">Pipeline System Modifications Project</a>	2000/3	Not Controlled Action	Completed
<a href="#">Placement of bitumen/ concrete on rail sections of heritage listed incline, Christmas Island</a>	2013/7009	Not Controlled Action	Completed
<a href="#">Power Station Diesel Generator Replacement</a>	2009/4685	Not Controlled Action	Completed
<a href="#">Project Highclere Geophysical Survey</a>	2021/9023	Not Controlled Action	Completed
<a href="#">Project Sea Dragon Stage 1 Hatchery - Gunn Point, NT</a>	2017/8092	Not Controlled Action	Completed
<a href="#">Proposed sale or lease of Crown land, 11 lots, Christmas Island</a>	2018/8220	Not Controlled Action	Completed
<a href="#">Puffin Oil wells 7, 8 &amp; 9 development</a>	2005/2336	Not Controlled Action	Completed
<a href="#">Realignment of Gaze Road Service Road and Gaze Road Junction</a>	2004/1735	Not Controlled Action	Completed
<a href="#">Refurbishment and Extension of Seaview Lodge</a>	2012/6353	Not Controlled Action	Completed
<a href="#">renovate free-standing servant's quarters</a>	2006/2811	Not Controlled Action	Completed
<a href="#">Replacement of deteriorating flat roof at rear of Mosque and extending side verandahs, Christmas Is</a>	2013/6851	Not Controlled Action	Completed
<a href="#">Residential Complex - Lots 6575 and 6576</a>	2001/163	Not Controlled Action	Completed
<a href="#">Residential Secondary College</a>	2007/3276	Not Controlled Action	Completed
<a href="#">Residential upgrade, 2 Coconut Grove</a>	2007/3295	Not Controlled Action	Completed
<a href="#">Saucepan 1 Exploration Well ACP23</a>	2000/2	Not Controlled Action	Completed
<a href="#">Searipple gas and condensate field development</a>	2000/89	Not Controlled Action	Completed
<a href="#">Skua and Swift Oilfields</a>	2006/3195	Not Controlled Action	Completed
<a href="#">Stormwater Remediation Project, Christmas Island</a>	2019/8467	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action</b>			
<a href="#">Strumbo-1 Gas Exploration Well Permit Area WA-288-P</a>	2002/884	Not Controlled Action	Completed
<a href="#">Subdivision of Lot 571 on DP 26701</a>	2008/4230	Not Controlled Action	Completed
<a href="#">Subdivision of Part 7 of Lot 1014</a>	2009/4851	Not Controlled Action	Completed
<a href="#">sub-sea tieback of Perseus field wells</a>	2004/1326	Not Controlled Action	Completed
<a href="#">Supermarket Extensions</a>	2006/2515	Not Controlled Action	Completed
<a href="#">Telstra North Rankin Spur Fibre Optic Cable</a>	2016/7836	Not Controlled Action	Completed
<a href="#">Upgrade of Residence, Coconut Grove</a>	2006/2728	Not Controlled Action	Completed
<a href="#">Verandah Extension to Existing Breezeway Unit, Gaze Road</a>	2005/1970	Not Controlled Action	Completed
<a href="#">WA-295-P Kerr-McGee Exploration Wells</a>	2001/152	Not Controlled Action	Completed
<a href="#">Waterfront Redevelopment</a>	2003/1256	Not Controlled Action	Completed
<a href="#">Western Flank Gas Development</a>	2005/2464	Not Controlled Action	Completed
<a href="#">Wheatstone 3D seismic survey, 70km north of Barrow Island</a>	2004/1761	Not Controlled Action	Completed
<a href="#">Wickham Point Interconnect Gas Pipeline</a>	2008/4309	Not Controlled Action	Completed
<a href="#">Woodside Geotechnical Investigation Sunrise Bank</a>	2000/13	Not Controlled Action	Completed
<b>Not controlled action (particular manner)</b>			
<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
<a href="#">"Leanne" offshore 3D seismic exploration, WA-356-P</a>	2005/1938	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2 (3D) Marine Seismic Surveys</a>	2009/4994	Not Controlled Action (Particular Manner)	Completed



Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
<a href="#">2D and 3D Seismic Survey</a>	2011/6197	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D and 3D Seismic Survey WA-405-P</a>	2009/5104	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D and 3D Seismic Survey WA-405-P</a>	2008/4133	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D marine seismic survey</a>	2012/6296	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D Marine Seismic Survey</a>	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D marine seismic survey of Braveheart, Kurrajong, Sunshine and Crocodile</a>	2006/2917	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D marine seismic survey within permit area WA-318-P</a>	2007/3879	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D or 3D Marine Seismic Survey in Petroleum Permit Area AC/P35</a>	2009/4864	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D Seismic Marine Survey</a>	2001/363	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D Seismic survey</a>	2009/5076	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D seismic survey in permit areas WA-274P and WA-281P</a>	2004/1521	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D Seismic Survey Permit Area WA-352-P</a>	2008/4628	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
		Manner)	
<a href="#">2D Seismic Survey - Petroleum Exploration Area NT/P68, Eastern Bonaparte Basin</a>	2006/2922	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D seismic survey within permit WA-291</a>	2007/3265	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2 geotechnical surveys - preliminary and final</a>	2006/2886	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D Marine Seismic Survey</a>	2009/4681	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D Marine Seismic Survey</a>	2008/4437	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D Marine Seismic Survey, Permit AC/P 23</a>	2005/2364	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D Marine Seismic Survey (WA-482-P, WA-363-P), WA</a>	2013/6761	Not Controlled Action (Particular Manner)	Post-Approval
<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 Survey in WA 457-P &amp; WA 458-P, North West Shelf, offshore WA</a>	2013/6862	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D marine seismic Survey - Maxima 3D MSS</a>	2006/2945	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D marine seismic survey over petroleum title WA-268-P</a>	2007/3458	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
<a href="#">3D seismic survey</a>	2006/2715	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D Seismic Survey</a>	2006/2729	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D Seismic Survey, Browse Basin, WA</a>	2009/5048	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D Seismic Survey, near Scott Reef, Browse Basin</a>	2005/2126	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D Seismic Survey, petroleum exploration permit AC/P33</a>	2006/2918	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D Seismic Survey (NT/P68)</a>	2006/2980	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D Seismic Survey (NT/P68)</a>	2008/4121	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D seismic survey of AC/P4, AC/P17 and AC/P24</a>	2006/2857	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D Seismic Survey WA-406-P Bonaparte Basin</a>	2007/3904	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D seismic survey</a>	2006/2781	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">AC/P37 3D Seismic Survey Ashmore Cartier</a>	2007/3774	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Addition of Verandah to Block of Four Units</a>	2005/2315	Not Controlled Action (Particular	Post-Approval



Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
		Manner)	
<a href="#">Aerial Baiting of Yellow Crazy Ants</a>	2012/6438	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="#">Artemis-1 Drilling Program (WA-360-P)</a>	2010/5432	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Asbestos Removal from Commonwealth Owned Assets including Commonwealth Heritage</a>	2009/4873	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Auralandia 3D marine seismic survey</a>	2011/5961	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Aurora MC3D Marine Seismic Survey</a>	2010/5510	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Australia to Singapore Fibre Optic Submarine Cable System</a>	2011/6127	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Baiting Efficacy Trial of Feral Cat Bait and PAPP Toxicant</a>	2008/4383	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Balnaves Condensate Field Development</a>	2011/6188	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Bassett 3D Marine Seismic Survey</a>	2010/5538	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Bonaparte 2D &amp; 3D marine seismic survey</a>	2011/5962	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
<a href="#">Bonaparte 3D &amp; 2D Seismic Survey, in NT/P82, Timor Sea</a>	2012/6398	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Bonaparte Basin Barossa Appraisal Drilling Campaign, NT</a>	2012/6481	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Bonaparte Basin Seabed Mapping Survey</a>	2009/4951	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Bonaparte Seismic and Bathymetric Survey</a>	2012/6295	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Braveheart 2D Infill Marine Seismic Survey 100km offshore</a>	2008/4442	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Braveheart 2D Marine Seismic Survey</a>	2005/2322	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Cable Seismic Exploration Permit areas WA-323-P and WA-330-P</a>	2008/4227	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Caldita 3D Marine Seismic Survey - NT/P61, NT/P69, and acreage release area NT06-5</a>	2006/3142	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Canis 3D Marine Seismic Survey</a>	2008/4492	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Cartier East and Cartier West 3D Marine Seismic Surveys</a>	2009/5230	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Caswell MC3D Marine Seismic Survey</a>	2012/6594	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">CGGVERITAS 2010 2D Seismic Survey</a>	2010/5714	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<u>Not controlled action (particular manner)</u>			
		Manner)	
<a href="#">Commonwealth Marine/Flying Fish Cove Jetty Extension</a>	2012/6675	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Conduct an exploration drilling campaign</a>	2011/5964	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Crazy Ant Aerial Baiting Control Program</a>	2002/722	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="#">DAVROS MC 3D marine seismic survey northwaet of Dampier, WA</a>	2013/7092	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Decommissioning of the Legendre facilities</a>	2010/5681	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="#">Demeter 3D Seismic Survey, off Dampier, WA</a>	2002/900	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Dillon South-1 Exploration Well Drilling - AC/P4, Territory of Ashmore/Cartier</a>	2013/6849	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

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
<a href="#">Dredging the outer shipping channels of Darwin Harbour</a>	2013/6988	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="#">Drilling of Audacious-5 appraisal well</a>	2008/4327	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Drilling of Exploration &amp; Appraisal Wells Braveheart-1 &amp; Cornea-3</a>	2009/5160	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Drilling of two appraisal wells</a>	2011/5840	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Endurance 3D Marine Seismic Data Acquisition Survey</a>	2007/3667	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Eni Bathurst 3D Seismic Survey</a>	2011/6118	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 Campaign</a>	2011/6047	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Exploration Drilling Campaign, Browse Basin, WA-341-P, AC-P36 and WA-343-P</a>	2013/6898	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Exploration Drilling in Permit Areas WA-402-P &amp; WA-403-P</a>	2010/5297	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Exploration drilling of Zeus-1 well</a>	2008/4351	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
		Manner)	
<a href="#">Exploration Drilling Program - Permit areas - WA-314-P, WA-315-P, WA-398-P.</a>	2008/4064	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Fishburn2D Marine Seismic Survey</a>	2012/6659	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Fletcher-Finucane Development, WA26-L and WA191-P</a>	2011/6123	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Floyd 3D and Chisel 3D Seismic Surveys</a>	2011/6220	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="#">Geco Eagle 3D Marine Seismic Survey</a>	2008/3958	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Geoscience Australia - Marine survey in Browse Basin to acquire data to assist assessment of CO2 sto</a>	2013/6747	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Gicea 3D Marine Seismic Survey</a>	2008/4389	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Gigas 2D Pilot Ocean Bottom Cable Marine Seismic Survey</a>	2007/3839	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="#">Gold 2D Marine Seismic Survey Permit Areas WA375P and WA376P</a>	2009/4698	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
<a href="#">Greater Western Flank Phase 1 gas Development</a>	2011/5980	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="#">Helicopter baiting of exotic yellow crazy ant supercolonies, Christmas Island, Indian Ocean</a>	2009/5016	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Ichthys 3D Marine Seismic Survey</a>	2010/5550	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">INDIGO Marine Cable Route Survey (INDIGO)</a>	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Joseph Bonaparte Gulf Seabed mapping survey</a>	2010/5517	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Judo Marine 3D Seismic Survey within and adjacent to WA-412-P</a>	2009/4801	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Judo Marine 3D Seismic Survey within and adjacent to WA-412-P</a>	2008/4630	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="#">Kingtree &amp; Ironstone-1 Exploration Wells</a>	2011/5935	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="#">Koolama 2D Seismic Survey Dampier Basin</a>	2010/5420	Not Controlled Action (Particular	Post-Approval



Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
		Manner)	
<a href="#">Kraken, Lusca &amp; Asperus 3D Marine Seismic Survey</a>	2013/6730	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Laying a submarine optical fibre telecommunications cable, Perth to Singapore and Jakarta</a>	2014/7332	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Malita West 3D Seismic Survey WA-402-P and WA-403-P</a>	2007/3936	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Marine Environmental Survey 2012</a>	2012/6310	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Mariner Non-Exclusive 2D Seismic Survey</a>	2011/6172	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">New Housing Program</a>	2011/6056	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">NT/P74 &amp; NT/P75 - 2D marine seismic survey</a>	2008/4316	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">NT/P77 3D Marine Seismic Survey</a>	2009/4683	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">NT/P80 2010 2D Marine Seismic Survey</a>	2010/5487	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Octantis 3D Marine Seismic Survey, Permit Area AC/P41 off northern Western Australia</a>	2007/3369	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Offshore Canning Multi Client 2D Marine Seismic Survey</a>	2010/5393	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
<a href="#">Offshore Drilling Campaign</a>	2011/5830	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Offshore Exploration Drilling Campaign</a>	2011/6222	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Offshore Fibre Optic Cable Network Construction &amp; Operation, Port Hedland WA to Darwin NT</a>	2014/7223	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Offshore Gas Exploration Drilling Campaign</a>	2012/6384	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="#">Outer Canning exploration drilling program off NW coast of WA</a>	2012/6618	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Panda NT/P76 3D Seismic Acquisition Survey Program</a>	2009/4992	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Petrel MC2D Marine Seismic Survey</a>	2010/5368	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Phoenix 3D Seismic Survey, Bedout Sub-Basin</a>	2010/5360	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Pilot Appraisal Well - Torosa South 1</a>	2008/3991	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Port Melville marine supply base, Melville Island</a>	2015/7510	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Removal of Potential Unexploded Ordnance within NAXA</a>	2012/6503	Not Controlled Action (Particular	Post-Approval



Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
		Manner)	
<a href="#">Repsol 3d &amp; 2D Marine Seismic Survey</a>	2012/6658	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="#">Rosebud 3D Marine Seismic Survey in WA-30-R and TR/5</a>	2012/6493	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Sandalford 3D Seismic Survey</a>	2012/6261	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Santos Petrel-7 Offshore Appraisal Drilling Programme (Bonaparte Basin)</a>	2011/5934	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="#">Schild MC3D Marine Seismic Survey</a>	2012/6373	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Schild Phase 11 MC3D Marine Seismic Survey, Browse Basin</a>	2013/6894	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Scott Reef Seismic Research</a>	2006/2647	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Searcher bathymetry &amp; geochemical seismic survey, Browse Basin, Timor Sea, WA</a>	2013/6980	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Sonar and Acoustic Trials</a>	2001/345	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
<a href="#">Songa Venus Drilling and Testing Operations</a>	2009/5122	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Songa Venus Drilling Programme, Bonaparte Basin</a>	2009/4990	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Sunshine Infill 2D and Mimosa 2D Marine Seismic Surveys</a>	2009/4699	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Swimming Pool modification</a>	2007/3312	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Thoar 3D Marine Seismic Survey</a>	2010/5668	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Tidepole Maz 3D Seismic Survey Campaign</a>	2007/3706	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Tiffany 3D Seismic Survey</a>	2010/5339	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Torosa-5 Apraisal Well, WA-30-R</a>	2008/4430	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Tow West Atlas wreck from present location to boundary of EEZ</a>	2010/5652	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Trials of a bait delivery system for the control of Yellow Crazy Ants</a>	2009/4763	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Tridacna 3D Ocean Bottom Cable Marine Seismic Survey</a>	2011/5959	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	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
		Manner)	
<a href="#">Ursa 3D Marine Seismic Survey</a>	2008/4634	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Vampire 2D Non Exclusive Seismic Survey, WA</a>	2010/5543	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Veritas Voyager 2D Marine Seismic Survey</a>	2009/5151	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Water supply upgrade</a>	2005/2269	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">West Panaeus 3D seismic survey</a>	2006/3141	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="#">Woodside Southern Browse 3D Seismic Survey, WA</a>	2007/3534	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Zeemeermin MC3D seismic survey, Browse Basin, Offshore WA</a>	2009/5023	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Zeppelin 3D Seismic Survey</a>	2011/6148	Not Controlled Action (Particular Manner)	Post-Approval

Referral decision

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Referral decision</b>			
<a href="#">2D Marine Seismic Survey</a>	2008/4623	Referral Decision	Completed
<a href="#">3D Seismic Survey</a>	2008/4219	Referral Decision	Completed
<a href="#">3D Seismic Survey (NT/P68)</a>	2006/2949	Referral Decision	Completed
<a href="#">Alterations and Improvements to existing residence at Lot 3015 Gaze Rd, Christmas Island</a>	2009/5039	Referral Decision	Completed
<a href="#">Aurora extension MC3D Marine Seismic Survey</a>	2011/5887	Referral Decision	Completed
<a href="#">BRSN08 3D Marine Seismic Survey</a>	2008/4582	Referral Decision	Completed
<a href="#">Experimental Study of Behavioural and Physiological Impact on Fish of Seismic Ex</a>	2006/2625	Referral Decision	Completed
<a href="#">Phillips Petroleum Wickham Point LNG facility</a>	2001/391	Referral Decision	Completed
<a href="#">Pilot Appraisal Well - Torosa South-1</a>	2008/3985	Referral Decision	Completed
<a href="#">Puffin South-West Development of Oil Reserves</a>	2007/3834	Referral Decision	Completed
<a href="#">Rocky Point Dwelling Redevelopment</a>	2005/2203	Referral Decision	Referral Decision
<a href="#">Rose 3D Seismic acquisition survey</a>	2008/4220	Referral Decision	Completed
<a href="#">Seismic Data Acquisition, Browse Basin</a>	2010/5475	Referral Decision	Completed

## Key Ecological Features

[\[ Resource Information \]](#)

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
<a href="#">Ancient coastline at 125 m depth contour</a>	North-west
<a href="#">Ashmore Reef and Cartier Island and surrounding Commonwealth waters</a>	North-west
<a href="#">Canyons linking the Argo Abyssal Plain with the Scott Plateau</a>	North-west

Name	Region
<a href="#">Carbonate bank and terrace system of the Sahul Shelf</a>	North-west
<a href="#">Carbonate bank and terrace system of the Van Diemen Rise</a>	North
<a href="#">Continental Slope Demersal Fish Communities</a>	North-west
<a href="#">Exmouth Plateau</a>	North-west
<a href="#">Glomar Shoals</a>	North-west
<a href="#">Mermaid Reef and Commonwealth waters surrounding Rowley Shoals</a>	North-west
<a href="#">Pinnacles of the Bonaparte Basin</a>	North
<a href="#">Pinnacles of the Bonaparte Basin</a>	North-west
<a href="#">Seringapatam Reef and Commonwealth waters in the Scott Reef Complex</a>	North-west
<a href="#">Shelf break and slope of the Arafura Shelf</a>	North
<a href="#">Tributary Canyons of the Arafura Depression</a>	North

## Biologically Important Areas

Scientific Name	Behaviour	Presence
<b>Dolphins</b>		
<a href="#">Orcaella heinsohni</a>		
Australian Snubfin Dolphin [81322]	Breeding	Known to occur
<a href="#">Orcaella heinsohni</a>		
Australian Snubfin Dolphin [81322]	Breeding likely	Known to occur
<a href="#">Orcaella heinsohni</a>		
Australian Snubfin Dolphin [81322]	Calving	Known to occur
<a href="#">Orcaella heinsohni</a>		
Australian Snubfin Dolphin [81322]	Foraging	Known to occur
<a href="#">Orcaella heinsohni</a>		
Australian Snubfin Dolphin [81322]	Foraging (high density prey)	Known to occur
<a href="#">Orcaella heinsohni</a>		
Australian Snubfin Dolphin [81322]	Resting	Known to occur

Scientific Name	Behaviour	Presence
<a href="#">Sousa chinensis</a> Indo-Pacific Humpback Dolphin [50]	Breeding	Likely to occur
<a href="#">Sousa chinensis</a> Indo-Pacific Humpback Dolphin [50]	Breeding	Known to occur
<a href="#">Sousa chinensis</a> Indo-Pacific Humpback Dolphin [50]	Breeding likely	Known to occur
<a href="#">Sousa chinensis</a> Indo-Pacific Humpback Dolphin [50]	Calving	Likely to occur
<a href="#">Sousa chinensis</a> Indo-Pacific Humpback Dolphin [50]	Calving	Known to occur
<a href="#">Sousa chinensis</a> Indo-Pacific Humpback Dolphin [50]	Foraging	Known to occur
<a href="#">Sousa chinensis</a> Indo-Pacific Humpback Dolphin [50]	Foraging	Likely to occur
<a href="#">Sousa chinensis</a> Indo-Pacific Humpback Dolphin [50]	Foraging (high density prey)	Known to occur
<a href="#">Sousa chinensis</a> Indo-Pacific Humpback Dolphin [50]	Foraging (high density prey)	Likely to occur
<a href="#">Sousa chinensis</a> Indo-Pacific Humpback Dolphin [50]	Significant habitat	Known to occur
<a href="#">Sousa chinensis</a> Indo-Pacific Humpback Dolphin [50]	Significant habitat - unknown behaviour	Likely to occur
<a href="#">Tursiops aduncus</a> Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Known to occur
<a href="#">Tursiops aduncus</a> Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Calving	Known to occur
<a href="#">Tursiops aduncus</a> Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Foraging	Known to occur

Scientific Name	Behaviour	Presence
<b>Dugong</b>		
<a href="#">Dugong dugon</a> Dugong [28]	Breeding	Known to occur
<a href="#">Dugong dugon</a> Dugong [28]	Calving	Known to occur
<a href="#">Dugong dugon</a> Dugong [28]	Foraging	Likely to occur
<a href="#">Dugong dugon</a> Dugong [28]	Foraging	Known to occur
<a href="#">Dugong dugon</a> Dugong [28]	Foraging (high density seagrass beds)	Known to occur
<a href="#">Dugong dugon</a> Dugong [28]	Nursing	Known to occur
<b>Marine Turtles</b>		
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Foraging	Known to occur
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Foraging	Known to occur
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Foraging	Likely to occur
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Internesting	Known to occur
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Internesting	Likely to occur
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Internesting buffer	Likely to occur
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Internesting buffer	Known to occur
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Mating	Likely to occur



Scientific Name	Behaviour	Presence
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Nesting	Known to occur
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Nesting	Likely to occur
<a href="#">Dermochelys coriacea</a> Leatherback Turtle [1768]	Internesting	Likely to occur
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Foraging	Likely to occur
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Internesting	Likely to occur
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Internesting buffer	Likely to occur
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Internesting buffer	Known to occur
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Nesting	Known to occur
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Nesting	Likely to occur
<a href="#">Lepidochelys olivacea</a> Olive Ridley Turtle [1767]	Foraging	Likely to occur
<a href="#">Lepidochelys olivacea</a> Olive Ridley Turtle [1767]	Foraging	Known to occur
<a href="#">Lepidochelys olivacea</a> Olive Ridley Turtle [1767]	Internesting	Likely to occur
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Foraging	Known to occur
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Internesting	Likely to occur
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Internesting	Known to occur
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Internesting buffer	Known to occur



Scientific Name	Behaviour	Presence
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Nesting	Known to occur
<b>River shark</b>		
<a href="#">Pristis clavata</a> Dwarf Sawfish [68447]	Foraging	Known to occur
<a href="#">Pristis clavata</a> Dwarf Sawfish [68447]	Juvenile	Known to occur
<a href="#">Pristis clavata</a> Dwarf Sawfish [68447]	Nursing	Known to occur
<a href="#">Pristis clavata</a> Dwarf Sawfish [68447]	Pupping	Known to occur
<a href="#">Pristis pristis</a> Freshwater Sawfish [60756]	Foraging	Known to occur
<a href="#">Pristis pristis</a> Freshwater Sawfish [60756]	Nursing	Likely to occur
<a href="#">Pristis zijsron</a> Green Sawfish [68442]	Foraging	Known to occur
<a href="#">Pristis zijsron</a> Green Sawfish [68442]	Pupping	Known to occur
<b>Seabirds</b>		
<a href="#">Ardena pacifica</a> Wedge-tailed Shearwater [84292]	Breeding	Known to occur
<a href="#">Fregata ariel</a> Lesser Frigatebird [1012]	Breeding	Known to occur
<a href="#">Fregata minor</a> Greater Frigatebird [1013]	Breeding	Known to occur
<a href="#">Onychoprion anaethetus</a> Bridled Tern [82845]	Breeding	Known to occur
<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]	Breeding	Known to occur

Scientific Name	Behaviour	Presence
<a href="#">Sterna dougallii</a> Roseate Tern [817]	Breeding	Known to occur
<a href="#">Sterna dougallii</a> Roseate Tern [817]	Breeding (high numbers)	Known to occur
<a href="#">Sternula albifrons sinensis</a> Little Tern [82850]	Breeding	Known to occur
<a href="#">Sternula albifrons sinensis</a> Little Tern [82850]	Resting	Known to occur
<a href="#">Sula leucogaster</a> Brown Booby [1022]	Breeding	Known to occur
<a href="#">Sula sula</a> Red-footed Booby [1023]	Breeding	Known to occur
<a href="#">Thalasseus bengalensis</a> Lesser Crested Tern [66546]	Breeding	Known to occur
<a href="#">Thalasseus bergii</a> Crested Tern [83000]	Breeding	Known to occur
<a href="#">Thalasseus bergii</a> Crested Tern [83000]	Breeding (high numbers)	Known to occur
<b>Sharks</b>		
<a href="#">Rhincodon typus</a> Whale Shark [66680]	Foraging	Known to occur
<b>Whales</b>		
<a href="#">Balaenoptera musculus brevipinna</a> Pygmy Blue Whale [81317]	Distribution	Known to occur
<a href="#">Balaenoptera musculus brevipinna</a> Pygmy Blue Whale [81317]	Foraging	Known to occur
<a href="#">Balaenoptera musculus brevipinna</a> Pygmy Blue Whale [81317]	Migration	Known to occur

Scientific Name	Behaviour	Presence
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Calving	Known to occur
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Migration	Known to occur
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Migration (north and south)	Known to occur
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Nursing	Known to occur
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Resting	Known to occur

# Caveat

## 1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

## 2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

## 3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

## 4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

# Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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# EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 28-Nov-2022

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

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[Acknowledgements](#)



# Summary

## Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

<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>	22
<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>	62
<a href="#">Whales and Other Cetaceans:</a>	23
<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>	19
<a href="#">Key Ecological Features (Marine):</a>	None
<a href="#">Biologically Important Areas:</a>	1
<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

EEZ and Territorial Sea

### Listed Threatened Species

[\[ Resource Information \]](#)

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.  
Number is the current name ID.

### Scientific Name

### Threatened Category

### Presence Text

#### BIRD

#### [Anous tenuirostris melanops](#)

Australian Lesser Noddy [26000]

Vulnerable

Foraging, feeding or related behaviour likely to occur within area

#### [Calidris canutus](#)

Red Knot, Knot [855]

Endangered

Species or species habitat may occur within area

#### [Calidris ferruginea](#)

Curlew Sandpiper [856]

Critically Endangered

Species or species habitat may occur within area

#### [Numenius madagascariensis](#)

Eastern Curlew, Far Eastern Curlew [847]

Critically Endangered

Species or species habitat may occur within area

#### [Papasula abbotti](#)

Abbott's Booby [59297]

Endangered

Species or species habitat may occur within area

#### FISH

#### [Thunnus maccoyii](#)

Southern Bluefin Tuna [69402]

Conservation Dependent

Breeding known to occur within area

#### MAMMAL

Scientific Name	Threatened Category	Presence Text
<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	Species or species habitat likely 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="#">Aipysurus foliosquama</a> Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely 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="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Lepidochelys olivacea</a> Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area

## SHARK

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="#">Glyphis garricki</a> Northern River Shark, New Guinea River Shark [82454]	Endangered	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 may occur within area
<a href="#">Fregata ariel</a> Lesser Frigatebird, Least Frigatebird [1012]		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
<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]		Species or species habitat likely to 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 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	Species or species habitat likely 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	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour 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
<a href="#">Lepidochelys olivacea</a> Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Species or species habitat likely to occur within area
<a href="#">Mobula alfredi as Manta alfredi</a> Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area
<a href="#">Mobula birostris as 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	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="#">Physeter macrocephalus</a> Sperm Whale [59]		Species or species habitat may 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 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="#">Tursiops aduncus (Arafura/Timor Sea populations)</a> Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [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="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	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
<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

## Other Matters Protected by the EPBC Act

Listed Marine Species		[ Resource Information ]
Scientific Name	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="#">Anous tenuirostris melanops</a> Australian Lesser Noddy [26000]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	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 may occur within area
<a href="#">Fregata ariel</a> Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area



Scientific Name	Threatened Category	Presence Text
<a href="#">Fregata minor</a> Great Frigatebird, Greater Frigatebird [1013]		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="#">Papasula abbotti</a> Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]		Species or species habitat likely to occur within area
<b>Fish</b>		
<a href="#">Bhanotia fasciolata</a> Corrugated Pipefish, Barbed Pipefish [66188]		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="#">Choeroichthys brachysoma</a> Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
<a href="#">Choeroichthys suillus</a> Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
<a href="#">Corythoichthys amplexus</a> Fijian Banded Pipefish, Brown-banded Pipefish [66199]		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="#">Corythoichthys intestinalis</a> Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Corythoichthys schultzi</a> Schultz's Pipefish [66205]		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="#">Doryrhamphus dactyliophorus</a> Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
<a href="#">Doryrhamphus excisus</a> Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		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
<a href="#">Filicampus tigris</a> Tiger Pipefish [66217]		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="#">Halicampus dunckeri</a> Red-hair Pipefish, Duncker's Pipefish [66220]		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="#">Halicampus spinirostris</a> Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
<a href="#">Haliichthys taeniophorus</a> Ribbioned Pipehorse, Ribbioned Seadragon [66226]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Hippichthys penicillus</a> Beady Pipefish, Steep-nosed Pipefish [66231]		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="#">Hippocampus kuda</a> Spotted Seahorse, Yellow Seahorse [66237]		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
<a href="#">Micrognathus micronotopterus</a> Tidepool Pipefish [66255]		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="#">Solegnathus lettiensis</a> Gunther's Pipehorse, Indonesian Pipefish [66273]		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="#">Syngnathoides biaculeatus</a> Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		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
<a href="#">Trachyrhamphus longirostris</a> Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
<b>Reptile</b>		
<a href="#">Acalyptophis peronii</a> Horned Seasnake [1114]		Species or species habitat may occur within area
<a href="#">Aipysurus duboisii</a> Dubois' Seasnake [1116]		Species or species habitat may occur within area
<a href="#">Aipysurus foliosquama</a> Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Aipysurus laevis</a> Olive Seasnake [1120]		Species or species habitat may occur within area
<a href="#">Astrotia stokesii</a> Stokes' Seasnake [1122]		Species or species habitat may occur within area
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely 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="#">Chitulia ornata as Hydrophis ornatus</a> Spotted Seasnake, Ornate Reef Seasnake [87377]		Species or species habitat may occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Disteira kingii</a> Spectacled Seasnake [1123]		Species or species habitat may occur within area
<a href="#">Disteira major</a> Olive-headed Seasnake [1124]		Species or species habitat may occur within area
<a href="#">Emydocephalus annulatus</a> Turtle-headed Seasnake [1125]		Species or species habitat may occur within area
<a href="#">Enhydrina schistosa</a> Beaked Seasnake [1126]		Species or species habitat may occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Hydrophis elegans</a> Elegant Seasnake [1104]		Species or species habitat may occur within area
<a href="#">Leioselasma coggeri as Hydrophis coggeri</a> Black-headed Sea Snake, Slender-necked Seasnake [87373]		Species or species habitat may occur within area
<a href="#">Lepidochelys olivacea</a> Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Pelamis platurus</a> Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

## Whales and Other Cetaceans

[ [Resource Information](#) ]

Current Scientific Name

Status

Type of Presence

Mammal

Current Scientific Name	Status	Type of Presence
<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	Species or species habitat likely to occur within area
<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	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="#">Feresa attenuata</a> Pygmy Killer Whale [61]		Species or species habitat may occur within area
<a href="#">Globicephala macrorhynchus</a> Short-finned Pilot Whale [62]		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="#">Kogia breviceps</a> Pygmy Sperm Whale [57]		Species or species habitat may occur within area
<a href="#">Kogia sima as Kogia simus</a> Dwarf Sperm Whale [85043]		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

Current Scientific Name	Status	Type of Presence
<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		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="#">Physeter macrocephalus</a> Sperm Whale [59]		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="#">Stenella attenuata</a> Spotted Dolphin, Pantropical Spotted Dolphin [51]		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="#">Stenella longirostris</a> Long-snouted Spinner Dolphin [29]		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="#">Tursiops aduncus</a> Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		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="#">Tursiops truncatus s. str.</a> Bottlenose Dolphin [68417]		Species or species habitat may occur within area



Current Scientific Name	Status	Type of Presence
<a href="#">Ziphius cavirostris</a> Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

## Extra Information

EPBC Act Referrals			[ Resource Information ]
Title of referral	Reference	Referral Outcome	Assessment Status
<b>Controlled action</b>			
<a href="#">Montara 4, 5, and 6 Oil Production Wells, and Montara 3 Gas Re-Injection Well</a>	2002/755	Controlled Action	Post-Approval
<a href="#">PTTEP AA Floating LNG Facility</a>	2011/6025	Controlled Action	Completed
<b>Not controlled action</b>			
<a href="#">AEC International Hydrocarbon Well Puffin 6</a>	2000/36	Not Controlled Action	Completed
<a href="#">Montara-3 Offshore Hydrocarbon Exploration Well Permit Area AC/RL3</a>	2001/489	Not Controlled Action	Completed
<a href="#">Puffin Oil wells 7, 8 &amp; 9 development</a>	2005/2336	Not Controlled Action	Completed
<a href="#">Skua and Swift Oilfields</a>	2006/3195	Not Controlled Action	Completed
<b>Not controlled action (particular manner)</b>			
<a href="#">2 (3D) Marine Seismic Surveys</a>	2009/4994	Not Controlled Action (Particular Manner)	Completed
<a href="#">2D Marine Seismic Survey</a>	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D Seismic Marine Survey</a>	2001/363	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D Seismic survey</a>	2009/5076	Not Controlled Action	Post-Approval



Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
		(Particular Manner)	
<a href="#">3D Marine Seismic Survey</a>	2008/4437	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Cartier East and Cartier West 3D Marine Seismic Surveys</a>	2009/5230	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Kingtree &amp; Ironstone-1 Exploration Wells</a>	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Tow West Atlas wreck from present location to boundary of EEZ</a>	2010/5652	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Vampire 2D Non Exclusive Seismic Survey, WA</a>	2010/5543	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="#">Zeppelin 3D Seismic Survey</a>	2011/6148	Not Controlled Action (Particular Manner)	Post-Approval

<b>Referral decision</b>			
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<a href="#">2D Marine Seismic Survey</a>	2008/4623	Referral Decision	Completed
<a href="#">Puffin South-West Development of Oil Reserves</a>	2007/3834	Referral Decision	Completed

<b>Biologically Important Areas</b>			
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Scientific Name	Behaviour	Presence
<b>Sharks</b>		
<a href="#">Rhincodon typus</a>		
Whale Shark [66680]	Foraging	Known to occur

# Caveat

## 1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

## 2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

## 3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

## 4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

# Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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## Appendix E

**Table 1: Jadestone consideration of PTTEP consultation issues**

Issue raised with PTTEP	PTTEP Response	How Jadestone have considered
(No) recreational fishing from support/commercial vessels.	PTTEP AA employees and contractors are required to complete an 'Environmental Awareness' induction prepared by PTTEP AA prior to mobilisation. The induction provides an EP overview including stakeholder concerns. Contractors and sub-contractors will be made aware of commercial fishing sensitivities regarding fishing from support/commercial vessels.	Sensitivities regarding recreational fishing from support vessels will be included in compulsory inductions for Jadestone employees and contractors.
Potential conflict with PTTEP AA staff, contractors and sub-contractors regarding the difference between exclusion zones and cautionary zones.	There are no cautionary zones in the 5-year Operations EP scope. A Notice to Mariners will be issued and the safety exclusion zones will be noted on the Admiralty Chart covering the region.	Fishing license holders have been provided a Jadestone information pack that includes clarification on the PSZ that precludes entry by other users unless OIM approves, and a cautionary area (2.5 NM around FPSO) that allows other users in this area. The function of the cautionary area is simply to notify other users of a risk to use, in this instance FPSO, WHP and possible presence of a tanker.
Concern regarding communication between PTTEP AA, their staff, contractors and sub-contractors regarding interacting and protecting the rights of active commercial fishers on the water (concern that support vessels may not divert around active fishing activity).	The 'Environmental Awareness' induction will be used to communicate the rights of commercial fishers to access ocean resources to all employees and contractors. If a vessel is engaged in fishing (with nets, lines, trawls or other fishing apparatus which restrict manoeuvrability), the fishing vessel is restricted in its ability to manoeuvre. Therefore, it is the responsibility of other vessels (not restricted in their ability to manoeuvre) to ensure they take the appropriate actions to avoid a vessel collision.	Safe operation of support vessels in the vicinity of commercial fishing operations be included in compulsory inductions for Jadestone employees and contractors.
Legal protection should there be another spill event.	PTTEP AA is required by the regulator (NOPSEMA) to hold sufficient financial resources to ensure it can meet any likely clean-up costs.	Under the same legislative requirement, Jadestone is required by the regulator (NOPSEMA) to hold sufficient financial resources to ensure it can meet any likely clean-up costs.

Issue raised with PTTEP	PTTEP Response	How Jadestone have considered
<p>Capabilities to respond in the event of a hydrocarbon release, especially given isolated location.</p>	<p>As part of PTTEP AA's commitment to continuous improvement, PTTEP AA's management culture, operational capabilities, safety processes, and environmental systems are routinely evaluated and strengthened to align with industry good practice.</p> <p>PTTEP AA is committed to operate safely, responsibly and sustainably to deliver maximum benefit while minimising impact on the environment. PTTEP AA has recently increased its commitment to refresher training of the PTTEP AA emergency response team. PTTEP AA has also increased the level of external resources to support PTTEP AA's response (including environmental specialists) in the event that an unplanned release of hydrocarbons occurs. In addition, PTTEP has increased the response team to allow 24-hour coverage for an extended time frame.</p> <p>PTTEP AA has developed an Oil Pollution Emergency Plans (OPEP) for Montara Operations. The purpose of the OPEP is to detail the procedures and resources through which PTTEP AA will minimise the effect of a marine oil spill. The OPEP provides background on the appropriate response strategies and available oil spill response resources.</p> <p>The Department of Transport (DoT), Australian Marine Safety Authority (AMSA) and Australian Marine Oil Spill Centre (AMOSC) will have an opportunity to review and provide feedback on the OPEP.</p>	<p>As part of the development of this EP Jadestone has developed an Oil Pollution Emergency Plan (OPEP) for Montara Operations. The OPEP ensures rapid resourcing and response to any unplanned event. The Department of Transport (DoT), Australian Marine Safety Authority (AMSA) and Australian Marine Oil Spill Centre (AMOSC) will have an opportunity to review and provide feedback on the OPEP and it must meet regulators requirements.</p>

## Relevant Persons Report

## **1. INPUTS TO IDENTIFICATION OF RELEVANT PERSONS PROCESS**

The following inputs were internally defined as per the EP to assist with identifying relevant persons:

- Operational Area (Section 2.3 of EP)
- EMBAAs (Section 5.1 and Section 8.7.4 of EP)
- Activity Description (Section 3 of EP).

## **2. GUIDING SEARCH CRITERIA FOR IDENTIFICATION OF RELEVANT PERSONS**

To assist in identifying relevant persons, guiding search criteria were used to act as prompts and to ensure lessons learnt from previous approvals processes (including PTEPPs) were captured (Table 1). This also indicates relevant data sources used in the identification process.

The results of the guiding search criteria can be used to inform the development of a matrix for the Montara EP mapping relevant stakeholders against risks/values. This information allows appropriate identification/classification of stakeholders and also for a more rapid response in the event of an unplanned event.

It should be noted that at present, International Stakeholders are predominantly communicated with through DFAT as guided by NOSPEMA.



**Table 1: Guiding search criteria**

Entities whose FUNCTIONS make them a relevant person	Guiding search criteria	Information sources	Ongoing concerns/action required from previous consultation
<p>A person or organisation's power, duty, authority or responsibilities,</p> <p>An activity that is natural to or the purpose of a person or thing</p>	<p>What State and Federal government agencies have jurisdiction within the Operations Area/EMBA? Including jurisdiction over values.</p>		<p>Australian Hydrographic Office</p> <ul style="list-style-type: none"> <li>• Ensure confirmation received regarding update to maps</li> </ul> <p>DPIRD - Fisheries</p> <ul style="list-style-type: none"> <li>• Request for notification of any oil spill or discharge of any other pollutant within 24 hours.</li> <li>• Request that when developing OPEP JSE collects baseline marine data to compare against post spill monitoring. Baseline data should be made available to the Department.</li> <li>• Consideration of spawning grounds and nursery areas should be included in OPEP.</li> <li>• Biosecurity: Two ways to demonstrate commitment: <ul style="list-style-type: none"> <li>○ Utilise the Departments Vessel Check tool and complete actions to manage any activity related to vessels to a low/acceptable risk rating.</li> <li>○ Actively use a biofouling management plan and record book that meets requirements under International Organisation's Guidelines for the Control and Management of Ships' biofouling to minimise the Transfer of Invasive Aquatic Species.</li> </ul> </li> <li>• Recommendation that residual risk after using above measures is managed. Recommended this could be achieved by follow-up marine pest inspection around 75 days after arrival if the vessel is still in WA waters.</li> <li>• Request that any suspected marine pest or disease be reported within 24 hours.</li> </ul>

	Will WA or Commonwealth Marine Park/Reserve values be potentially affected or have implications for endangered, threatened or otherwise protected species/communities?		<a href="https://parksaustralia.gov.au/marine/">https://parksaustralia.gov.au/marine/</a>
	What government and non-government organisations have an interest in cultural affairs in the region?	Shipwrecks/Maritime heritage <a href="http://environment.gov.au/heritage/historic-shipwrecks/australian-national-shipwreck-database">http://environment.gov.au/heritage/historic-shipwrecks/australian-national-shipwreck-database</a>	
<b>Entities whose INTERESTS make them a relevant person</b>	<b>Guiding search criteria</b>	<b>Information sources</b>	<b>Ongoing concerns</b>
<p>A person or organisation's rights, advantages, duties, and liabilities</p> <p>A group or organisation having a common concern</p>	What NGO's are active in the Operations/EMBA area?		
	What commercial fishers, pearlers or aquaculture venture operators operate in the Operations Area/EMBA area?	WA - DPIRD (Fisheries Division) <a href="http://www.fish.wa.gov.au/Sustainability-and-Environment/Fisheries-Science/Stock-assessment-and-data-analysis/Pages/Making-a-data-request.aspx">http://www.fish.wa.gov.au/Sustainability-and-Environment/Fisheries-Science/Stock-assessment-and-data-analysis/Pages/Making-a-data-request.aspx</a>	<ul style="list-style-type: none"> <li>• Clarity around restricted area definitions</li> <li>• Interaction with oil and gas operators – operators to avoid active fishing even if inconvenient</li> <li>• Sensitivity around commercial fishers (who are not allowed to recreationally fish) seeing oil and gas staff recreationally fishing</li> </ul>
	What charter fishing operators are licensed to operate within the Operations Area/EMBA area?	WA - DPIRD (Fisheries Division) <a href="http://www.fish.wa.gov.au/Sustainability-and-Environment/Fisheries-Science/Stock-assessment-and-data-analysis/Pages/Making-a-data-request.aspx">http://www.fish.wa.gov.au/Sustainability-and-Environment/Fisheries-Science/Stock-assessment-and-data-analysis/Pages/Making-a-data-request.aspx</a>	
	What representative bodies act on behalf of individuals identified as	Fishing Representative bodies and Associations	WAFIC – see above regarding commercial fishing

	having a commercial interest in the operations or EMBA areas?	Tourism representative bodies	
	<p>What Traditional owner interests and rights of exist within the operational area or EMBA including:</p> <ul style="list-style-type: none"> <li>• Native Title Determination Applications</li> <li>• Native Title Claims</li> <li>• Native Title Determinations</li> <li>• Indigenous Land Use Agreements</li> </ul>	<p>Native Title Tribunal</p> <p><a href="http://www.nntt.gov.au/searchRegApps/Pages/default.aspx">http://www.nntt.gov.au/searchRegApps/Pages/default.aspx</a></p>	Contact through land councils
	Who are the Federal and State MPs/government representatives for the areas adjacent to the EMBA?	<p>Commonwealth</p> <p><a href="https://www.aph.gov.au/Senators_and_Members/Members">https://www.aph.gov.au/Senators_and_Members/Members</a></p> <p>WA</p> <p><a href="http://www.parliament.wa.gov.au/Parliament%5CMemblast.nsf/WAllMembers">http://www.parliament.wa.gov.au/Parliament%5CMemblast.nsf/WAllMembers</a></p>	
	What ports occur within or adjacent to the EMBA?	<a href="http://www.portsaustralia.com.au/">http://www.portsaustralia.com.au/</a>	
Entities whose ACTIVITIES make them a relevant person	Guiding search criteria	Information sources	Ongoing concerns
A thing that a person or group does or has done	Will the project affect, or potentially affect, recreational fishers?		
	What recreational pursuits could or do take place within the Operations		

	Area/EMBA?		
	What interest groups represent recreational pursuits that are identified within the EMBA?		
	What other oil and gas operations occur within the EMBA?		

## 2.1 Fisheries assessment

A separate assessment of relevant fisheries was undertaken to identify which fisheries should be considered relevant parties (Table 2).

**Table 2: Fisheries Relevant Person Assessment**

<b>Fishery</b>	<b>Area description</b>	<b>Fishing activity</b>	<b>Relevant party assessment</b>	<b>References</b>
Joint Authority Northern Shark Fishery	This fishery extends from longitude 123°45' E to the WA/NT border.	Species targeted in this fishery include sandbar ( <i>Carcharhinus plumbeus</i> ), blacktip ( <i>Carcharhinus</i> ), tiger ( <i>Galeocerdo cuvier</i> ), hammerhead (Family: Sphyrnidae) and lemon sharks ( <i>Negaprion acutidens</i> ). The primary fishing methods are demersal longlining and pelagic gillnetting. There has been no reported fishing activity in the northern shark fisheries since 2008/09. However, confirmed at the Department of Fisheries Northern Shark Workshop of 16 February 2017, joint authority licence holders will be re-commencing fishing via one vessel in 2017.	This fishery overlaps the Montara Operations (Five Year Review) specific location. Commercial fishers will be potentially active in this region.	Maloney, B., McAuley, R., Rowland, F., Northern Shark Fisheries Status Report: Statistics Only. In: <i>Status Reports of the Fisheries and Aquatic Resources of Western Australia 2012/13: The State of the Fisheries</i> eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 216-217.
Mackerel Managed Fishery Area 1	The fishery extends from near Augusta in the south to the WA/NT border. Area 1 – Kimberley is located from 121° E to the WA/NT border).	The Mackerel Fishery targets Spanish mackerel (via surface trolling) and grey mackerel (via jig fishing). Uses near-surface trolling gear from vessels to target mackerel in coastal areas around reefs, shoals and headlands. Jig fishing is also used (2015).	This fishery overlaps the Montara Operations (Five Year Review) specific location. Commercial fishers will be potentially active in this region.	Maloney, B., Lai, E., Jones, R., (2015). Mackerel Managed Fishery Report Statistics Only. In: <i>Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of</i>

		<p>The commercial catch of Spanish mackerel by the MMF was 302 t in 2015 and has been 270-330 t since quotas were introduced in 2006. Spanish mackerel in WA are likely a shared biological stock with the Northern Territory (2017).</p> <p>Fishers operate from shallow water depths up to approximately 70 metres (licence holder feedback).</p> <p>There are 6 licences owned by 4 operators in Area 1.</p>		<p><i>the Fisheries</i> eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 207-210.</p> <p>Lewis P. and Jones R. (2017). Statewide Large Pelagic Finfish Resource Status Report 2016 In: <i>Status Reports of the Fisheries and Aquatic Resources of Western Australia 2015/16: The State of the Fisheries</i> eds. WJ Fletcher, MD Mumme and FJ Webster Department of Fisheries, Western Australia. pp. 153-156.</p>
Northern Demersal Scalefish Managed Fishery Area 2	<p>The Northern Demersal Scalefish Managed Fishery operates off the northwest coast of Western Australia in the waters east of 120° E longitude. These waters extend out to the edge of the Australian Fishing Zone (200 nautical miles). The fishery is further divided into two fishing areas; an inshore sector (Area 1) and an offshore sector (Area 2).</p>	<p>This fishery can handline, dropline and fish traps, but since 2002 it has essentially been a trap based fishery which uses gear time access and spatial zones as the primary management measures. The main species landed by this fishery are red emperor and goldband snapper.</p> <p>There are two companies operating multiple licences in this fishery (licence holder feedback).</p>	<p>This fishery overlaps the Montara Operations (Five Year Review) specific location. Commercial fishers will be potentially active in this region.</p>	<p>Newman, A., Wakefield, C., Skepper, C., Boddington, D., Blay, N., Jones, R., Dobson, P. (2015). North Coast Demersal Fisheries Status Report. In: <i>Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries</i> eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 189-206.</p>
Pearl Oyster Managed Fishery Zone 3	<p>The Western Australian pearl oyster fishery is the only remaining significant wild-stock fishery for pearl oysters in the world (2017).</p> <p>The fishery is separated into 4 zones, the Montara Operations (Five Year Review) site is in Zone 3 (2015).</p>	<p>It is a dive fishery, operating in shallow coastal waters along the North-West Shelf. The harvest method is drift diving, six to eight divers are attached to large outrigger booms on a vessel and towed slowly over the pearl oyster beds, harvesting legal sized oysters by hand as they are seen (2015).</p>	<p>This fishery overlaps the Montara Operations (Five Year Review) specific location, the Pearl Producers Association represents WA pearl oyster quota owners and notes all areas of all fisheries are of interest.</p>	<p>Hart, A., Murphy, D., Jones, R. (2015). Pearl Oyster Managed Fishery Status Report. In: <i>Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries</i> eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 211-215.</p> <p>Hart A., Murphy D. and Jones R. (2017). North Coast Pearl Oyster Resource Status Report 2016 In: <i>Status Reports of the Fisheries and Aquatic Resources of Western Australia 2015/16: The State of the Fisheries</i> eds. WJ Fletcher, MD Mumme and FJ Webster Department of</p>

				Fisheries, Western Australia. pp. 158-161.
Western Tuna and Billfish Fishery	The Western Tuna and Billfish Fishery covers the sea area west from the tip of Cape York in Queensland, around Western Australia, to the border between Victoria and South Australia. Fishing occurs in both the Australian Fishing Zone and adjacent high seas.	Bigeye tuna, yellowfin tuna, broadbill swordfish and striped marlin are caught via long line and minor line fishing gear. Baited hooks are attached to the longline by short lines called snoods that hang off the mainline. There is one active licence holder in Western Australia (licence holder feedback).	This fishery overlaps the Montara Operations (Five Year Review) specific location. Commercial fishers will be potentially active in this region.	AFMA web site viewed 20/02/2018
Kimberley Prawn	The KPMF operates off the north of the state between Koolan Island and Cape Londonderry covering all Western Australian waters of the Indian Ocean lying east of 123°45' east longitude and west of 126°58' east longitude and extends to the 200nm limit. It abuts the western boundary of the Commonwealth-managed Northern Prawn Fishery (NPF).	This is an otter trawl fishery targeting banana prawns ( <i>Penaeus merguianus</i> ) but also catching tiger prawns ( <i>Penaeus esculentus</i> ), endeavour prawns ( <i>Metapenaeus endeavouri</i> ) and western king prawns ( <i>Penaeus latisulcatus</i> ). There are two fishing periods for the complete season April and May, then from August to December. There are 121 boats licenced to fish, 45 of these also held an NPF licence. WAFIC estimates there are less than 20 active licences.	This fishery overlaps the Montara Operations (Five Year Review) specific locations, however all Kimberley prawn trawling takes place in inner coastal areas and does not overlap these activities and therefore is not a potentially affected party to this activity. Accordingly, consultation is not required. This fishery is a relevant party (the resource) for EMBA acknowledgement and consideration in the event of a significant spill event.	Sporer, E., Kangas, M., Shanks, M., Blay, N. (2015). North Coast Prawn Managed Fisheries Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 173-179. (2015)
Specimen Shell	The fishing area includes all Western Australian waters between the high-water mark and the 200 metre isobath (2015). There is some concentration of effort in areas adjacent to population centres such as Broome, Karratha, Shark Bay, metropolitan Perth, Mandurah, the Capes area and Albany (2015).	Over 200 different Specimen Shell species were collected in 2014. The main methods are hand harvest by a small group of divers operating from small boats in shallow coastal waters or by wading along coastal beaches below the high-water mark. A current exemption method being employed by the fishery is using a remote controlled underwater vehicle at depths between 60 and 300 metres and a new exemption method using baited habitat structures at depths is being trialled (2015). Statewide, there are 32 licences in the	This fishery overlaps the Montara Operations (Five Year Review) specific location, however, this is primarily a hand-harvested dive fishery, not possible to harvest at this water depth range, therefore not a potentially affected party to this activity. Accordingly, consultation is not required. Remote vehicle operators confirm they do not collect shell	Hart, A., Crowe, K., (2015). Specimen Shell Managed Fishery Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 306-308.

		fishery, with 18 of the licences being active.	in the Montara Operations (Five Year Review) area and water depth (see Appendix 6:13). This fishery is a relevant party (the resource) for EMBA acknowledgement and consideration in the event of a significant spill event.	
Southern Bluefin Tuna Fishery	The Southern Bluefin Tuna Fishery covers the entire sea area around Australia, out to 200 nm from the coast.	Pelagic longline and purse seine fishing gear is used in this fishery. SBT are caught in southern and eastern Australia, not targeted in WA. The WA coast is the migratory and spawning pathway for this specie.	There is no SBT fishing in Western Australia. This fishery is a relevant party (the resource) for EMBA acknowledgement and consideration in the event of a significant spill event esp due to migration paths.	AFMA web site viewed 20/02/2018
Western Skipjack Tuna Fishery	Covers the entire sea area of the WA out to 200 nm from the coast.	Purse seine fishing for skipjack. Skipjack tuna in Australia was historically supplied to the cannery in Port Lincoln, however this cannery closed in 2010.	No Australian boats are currently fishing for skipjack tuna. AFMA has noted as there are no boats fishing in this fishery the management arrangements are under review. This fishery is a relevant party (the resource) for EMBA acknowledgement and consideration in the event of a significant spill	AFMA web site viewed 20/02/2018
Abalone Area 4 and 8	The Abalone Management Plan covers all Western Australian coastal waters, which are divided into 8 management areas. Area 4 – Busselton Jetty to the NT Border. Area 8 – Northern region	The commercial fishery harvest method is a single diver working off a 'hookah' (surface-supplied breathing apparatus) using an abalone 'iron' to prise the abalone off rocks. It is a dive and wade fishery, operating in shallow coastal waters targeting Roe's abalone ( <i>Haliotis roei</i> )  This fishery is closed in Area 8 due to catastrophic mortalities	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA	Hart, A., Brown, J., O'Malley, J., (2015). Roe's Abalone Fishery Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 39-48.

		resulting from exceptionally high-water temperatures in early 2011 associated with the marine heat wave.	area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	
Beche de Mer	The Western Australian beche-de-mer fishery is primarily based in the northern half of the State, from Exmouth Gulf to the Northern Territory border. Fishers have access to all Western Australian waters not specifically closed to fishing.	Beche-de-mer, also known as sea cucumbers or trepang, are in the Phylum Echinodermata, Class Holothuroidea. They are soft-bodied, elongated animals that usually live with their ventral surface in contact with the benthic substrate or buried in the substrate. It is a hand-harvest fishery, with animals caught principally by diving and a smaller amount by wading in shallower waters.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Hart, A., Murphy, D., Green, K. (2015). Beche-de-mer Fishery Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 216-220.
Broome Prawn Managed Fishery	The Broome Prawn Managed Fishery operates in a designated trawl zone off Broome. The boundaries of the BPMF are 'all Western Australian waters of the Indian Ocean lying east of 120° east longitude and west of 123°45' east longitude on the landward side of the 200 m isobath'. The actual trawl area is contained within a delineated small area north west of Broome.	This otter trawl fishery targets western king prawns ( <i>Penaeus latisulcatus</i> ) and coral prawns (a combined category of small penaeid species). There are currently no active fishers in this fishery.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Sporer, E., Kangas, M., Shanks, M., Blay, N. (2015). North Coast Prawn Managed Fisheries Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 173-179.
Kimberley Developing Mud Crab	Fishers operate between King Sound and the WA and Northern Territory border with fishing effort concentrated around Cambridge Gulf, Admiralty Gulf, York Sound and King Sound.	Target green mud crab ( <i>Scylla serrata</i> ) and brown mud crab ( <i>Scylla olivacea</i> ) via the use of crab traps in mangrove estuaries. There are five licences – three commercial and two for Aboriginal Corporations.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA	Johnston, D., Evans, R., Marsh, C., Blay, N., Wallis, D. (2015). North Coast Crab Fishery Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 220-227.



			area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	
Kimberley Gillnet and Barramundi	The waters of the KGBF are defined as 'all Western Australian waters north of 19° south latitude and west of 129° east longitude and within three nautical miles of the high-water mark of the mainland of Western Australia and the waters of King Sound south of 16°21.47' south latitude'. There are three principal fishing areas: Cambridge Gulf (including Ord River), Kimberley coast (six small river systems) and King Sound.	This fishery is permitted to take any fish by means of gillnet in inshore waters and the taking of barramundi ( <i>Lates calcarifer</i> ) by any means. Other main species taken by the fishery are king threadfin ( <i>Polydactylus macrochir</i> ) and blue threadfin ( <i>Eleutheronema tetradactylum</i> ). There are five licences in this fishery.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Brown, J.I., Newman, S.J., Mitsopoulos, G., Skepper, C., Thomson, A., Wallis, D. (2015). North Coast Nearshore and Estuarine Fishery Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 182-188.
Mackerel Managed Fishery Area 2	The fishery extends from near Augusta in the south to the WA/NT border. Area 2 – Pilbara is located from 114° E to 121° E.	The Mackerel Fishery targets Spanish mackerel (via surface trolling) and grey mackerel (via jig fishing). Uses near-surface trolling gear from vessels to target mackerel in coastal areas around reefs, shoals and headlands. Jig fishing is also used. Fishers operate from shallow water depths up to approximately 70 metres (licence holder feedback). There are 16 licences in Area 2.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Maloney, B., Lai, E., Jones, R., (2015). Mackerel Managed Fishery Report Statistics Only. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 207-210.
Marine Aquarium Fish Managed Fishery	Operates in Western Australia's state waters spanning the coastline from the Northern Territory border in the north to the South Australian border in the south.	Shallow wading but primarily a dive-based fishery that uses hand-held nets to capture the desired target species. This fishery has the capacity to target more than 950 species of marine aquarium fish and is also permitted to take coral, live rock, algae, seagrass and invertebrates. In past years the fishery has been active in waters from	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required.	Newman, S.J. Crowe, K., Bruce, C., Syers, C., Green, K., (2015). Marine Aquarium Fish Managed Fishery Report Statistics Only. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K.

		Esperance to Broome. There are 12 licences in this fishery.		Santoro, Department of Fisheries, Western Australia, pp. 301-305.
Northern Demersal Scalefish Managed Fishery Area 1	The Northern Demersal Scalefish Managed Fishery operates off the northwest coast of Western Australia in the waters east of 120° E longitude. These waters extend out to the edge of the Australian Fishing Zone (200 nautical miles). The fishery is further divided into two fishing areas; an inshore sector (Area 1) and an offshore sector (Area 2 – see Table 4.1. The inshore waters near Broome are closed to Area 1 commercial fishing.	Area 1 of this fishery fishes by handline (no fish traps).	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Newman, A., Wakefield, C., Skepper, C., Boddington, D., Blay, N., Jones, R., Dobson, P. (2015). North Coast Demersal Fisheries Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 189-206.
Nickol Bay Prawn	This fishery encompasses all the waters of the Indian Ocean and Nickol Bay between 116°45' east longitude and 120° east longitude on the landward side of the 200 m isobath.	This is an otter trawl fishery primarily targeting banana prawns ( <i>Penaeus merguensis</i> ). There are 13 licences in this fishery with 11 of these licences held by two operators.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Sporer, E., Kangas, M., Shanks, M., Blay, N. (2015). North Coast Prawn Managed Fisheries Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 173-179.
Onslow Prawn	The Onslow Prawn boundaries are 'all the Western Australian waters between the Exmouth Prawn Fishery and the Nickol Bay prawn fishery east of 114°39.9' on the landward side of the 200 metre depth isobath'.	This is an otter trawl fishery targeting western king prawns ( <i>Penaeus latisulcatus</i> ), brown tiger prawns ( <i>Penaeus esculentus</i> ), endeavour prawns ( <i>Metapenaeus</i> spp.) Fishing in recent years has been restricted due to construction and dredging activities associated with the Chevron Wheatstone project. There are eight licences in this fishery, three owned by one operator.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has	Sporer, E., Kangas, M., Shanks, M., Blay, N. (2015). North Coast Prawn Managed Fisheries Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 173-179.

			been provided for environment plan purposes in the event of a significant spill event.	
Pearl Oyster Managed Fishery Zone 4	The Western Australian pearl oyster fishery is the only remaining significant wild-stock fishery for pearl oysters in the world (2017). The fishery is separated into 4 zones, the Montara Operations (Five Year Review) site is in Zone 3, the EMBA potential impact also affects Zone 4 of this fishery (2015).	It is a dive fishery, operating in shallow coastal waters along the North-West Shelf. The harvest method is drift diving, six to eight divers are attached to large outrigger booms on a vessel and towed slowly over the pearl oyster beds, harvesting legal sized oysters by hand as they are seen (2015). Licensees in Zones 1 to 3 all have access to Zone 4 which is predominantly exploratory (for shell harvest) although pearl farming does occur in this region (2015).	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Hart, A., Murphy, D., Jones, R. (2015). Pearl Oyster Managed Fishery Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 211-215. Hart A., Murphy D. and Jones R. (2017). North Coast Pearl Oyster Resource Status Report 2016 In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2015/16: The State of the Fisheries eds. WJ Fletcher, MD Mumme and FJ Webster Department of Fisheries, Western Australia. pp. 158-161.
Pilbara Line	Fishers are permitted to operate anywhere within "Pilbara waters" which includes all waters bounded by a line commencing at the intersection of 21°56'S latitude and the high-water mark on the western side of the North West Cape on the mainland of Western Australia; thence west along the parallel to the intersection of 21°56'S latitude and the boundary of the Australian Fishing Zone and north to longitude 120°E.	Drop line fishing method for fish. Catches around 45 to 50 scalefish species and some deeper offshore species, e.g. ruby snapper ( <i>Etelis carbunculus</i> ) and eightbar grouper ( <i>Hyporthodus octofasciatus</i> ). In recent years the Line fishery catches have been dominated by ruby snapper and goldband snapper. Nine Fishing Boat Licences are exempted from this prohibition for any nominated 5 month block period within the year.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Newman, A., Wakefield, C., Skepper, C., Boddington, D., Blay, N., Jones, R., Dobson, P. (2015). North Coast Demersal Fisheries Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 189-206.
Pilbara Trap	The Pilbara Trap Managed Fishery lies north of latitude 21°44'S and between longitudes 114°9.6'E and 120°00'E on the landward side of a	Trapping for fish. The trap fishery retains a subset of about 45 to 50 scalefish species with the majority of catch consisting of red emperor, bluespotted, Rankin cod,	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a	Newman, A., Wakefield, C., Skepper, C., Boddington, D., Blay, N., Jones, R., Dobson, P. (2015). North Coast Demersal Fisheries Status Report. In: Status Reports

	boundary approximating the 200 metre isobath and seaward of a line generally following the 30 m isobath.	goldband snapper and crimson snapper. There are six licences in the fishery, with the allocation consolidated onto three vessels.	potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 189-206.
Pilbara Fish Trawl	The Pilbara Fish Trawl Fishery is situated in the Pilbara region in the northwest of Australia. It occupies the waters north of latitude 21°35'S and between longitudes 114°9'36" E and 120°E. The Fishery is seaward of the 50 metre isobath and landward of the 200 metre isobath. The fishery consists of two zones; Zone 1 in the south west (which is closed to trawling since 1998) and Zone 2 in the North, which consists of six management areas. Areas 3 and 6 are closed leaving ~46% of Zone 2 currently open to trawling.	Trawling for fish. The catch comprises of more than 50 scalefish species. Major species caught include crimson snapper, bluespotted emperor, rosy threadfin bream, goldband snapper, brownstripe snapper, saddletail snapper, red emperor, spangled emperor and Rankin cod. The trawl fleet had the equivalent of three full-time vessels in the 2014/15 season. There are 11 licences with two companies holding eight of these licences.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Newman, A., Wakefield, C., Skepper, C., Boddington, D., Blay, N., Jones, R., Dobson, P. (2015). North Coast Demersal Fisheries Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 189-206.
Trochus	Located in King Sound and the Buccaneer Archipelago	The Trochus Fishery is a small fishery based on the collection of a single target species, Tectus niloticus and fishery is operated by the Bardi Jawi and Mayala Aboriginal Communities, who have been collecting trochus in this area since the 1960's.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Fletcher, W.J. and Santoro, K. (eds). (2015). Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries. Department of Fisheries, Western Australia, pp. 158.
WA North Coast Shark	The WA fishery extends from	Species targeted in this fishery include sandbar (Carcharhinus plumbeus),	The WA North Coast Shark	Maloney, B., McAuley, R., Rowland, F.,

Fishery	longitude 114°06' E (North West Cape) to 123°45' E (Koolan Island) (2013).	blacktip ( <i>Carcharhinus</i> ), tiger ( <i>Galeocerdo cuvier</i> ), hammerhead (Family: Sphyrnidae) and lemon sharks ( <i>Negaprion acutidens</i> ) (2013). The primary fishing methods are demersal longlining and pelagic gillnetting (2013). There has been no reported fishing activity in the northern shark fisheries since 2008/09 (2013). The Department of Fisheries Northern Shark Workshop of 16 February 2017 confirmed this fishery will remain closed (shark breeding area).	Fishery is closed, the extension of this closure was confirmed at the DPIRD (Fisheries) Northern Shark Workshop of 16 February 2017 (shark breeding area) accordingly not a relevant party to the Montara Operations (Five Year Review) activity. This fishery is a relevant party (the resource) for EMBA acknowledgement and consideration in the event of a significant spill event.	Northern Shark Fisheries Status Report: Statistics Only. (2013) In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2012/13: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 216-217.
West Coast Deep Sea Crustacean	The boundaries of this fishery include all the waters lying north of latitude 34° 24' S (Cape Leeuwin) and west of the Northern Territory border on the seaward side of the 150 metre isobath out to the extent of the Australian Fishing Zone (2015). The fishery operates in water depths greater than 300 metres (2017).	Crab fishing via baited pots. Operate baited pots in the shelf edge waters greater than 150 metre water depth (2015). Targets crystal (snow) crabs ( <i>Chaceon albus</i> ), giant (king) crabs ( <i>Pseudocarcinus gigas</i> ) and champagne (spiny) crabs ( <i>Hypothalassia acerba</i> ) using baited pots operated in a long-line formation (2017).	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	How J., and Nardi K. (2015). West Coast Deep Sea Crustacean Managed Fishery Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 130-134. How J. and Yerman M. (2017) West Coast Deep Sea Crab Resource Status Report 2016. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2015/16: The State of the Fisheries eds. WJ Fletcher, MD Mumme and FJ Webster Department of Fisheries, Western Australia. pp. 105-108
Aquarium Fishery (NT)	It includes freshwater, estuarine and marine habitats to the outer boundary of the Australian fishing zone, 200 nautical miles offshore. Freshwater and estuarine species are generally collected between the Adelaide and Daly rivers, while most	It is a small-scale, multi-species fishery supplying the local, interstate and international pet retailers and wholesalers market including aquarium fishes (mostly rainbowfish, catfish and scats), invertebrates (hermit crabs, snails, whelks and hard and soft corals) and plants.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required.	Northern Territory government web site viewed 26/02/2018

	marine species are collected within 100km of Nhulunbuy and Darwin.		This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	
Bait Net Fishery (NT)	Commercial fishing for bait is allowed from the high water mark to three nautical miles seaward of the low water mark but does not include Darwin Harbour and Shoal Bay.	Commercial fishers are allowed to take all fish for use as bait except barramundi, threadfin salmon, Spanish mackerel or mud crab. The fishery is restricted to two licences.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Northern Territory government web site viewed 26/02/2018
Barramundi Fishery (NT)	Commercial fishing for barramundi is allowed from the high water mark to three nautical miles seaward of the low water mark. The fishing area is restricted to waters seaward from the coast, river mouths and legislated closed lines. Commercial fishers must not fish between the Little Finnis River and the Wildman River, including Bynoe Harbour, Darwin Harbour and Shoal Bay.	The commercial barramundi fishing season in the Northern Territory (NT) is from 1 February to 30 September. The fishery is restricted to 14 licences.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Northern Territory government web site viewed 26/02/2018
Coastal Line Fishery (NT)	Commercial fishing is permitted along the NT coast between the high water mark and 15 nautical miles out from the low water mark. Special restrictions apply in the western zone. The western zone extends from the Western Australian border to	Black jewfish and golden snapper are the key target species with bycatch species including emperors, cods and other snapper species. This fishery has 52 licences.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required.	Northern Territory government web site viewed 26/02/2018

	Vashon Head on Cobourg Peninsula, in the NT.		This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	
Coastal Net Fishery (NT)	The fishery extends from the high water mark to three nautical miles out from the low water mark and is divided into three regions - Darwin (from Cape Hotham to Native Point and Cape Ford to Cape Dooley), Gove (between Cape Arnhem and Cape Wilberforce) and Borroloola (from Bing Bong Creek and Pelican Spit.)	Mullet is the primary target species with byproduct including blue threadfin, sharks, queenfish, garfish, snapper and whiting. This fishery has 5 licences.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Northern Territory government web site viewed 26/02/2018
Mollusc Fishery (NT)	Commercial mollusc fishing is a hand-collecting fishing method allowed in intertidal waters from the high water mark out to the low water mark.	Permitted to take shellfish but must not collect pearl oysters and cephalapods such as squid, octopus, cuttlefish and nautilus. This fishery has 1 licence.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Northern Territory government web site viewed 26/02/2018
Pearl Oyster Fishery (NT)	The commercial pearl fishery extends from the high water mark to the outer boundary of the Australian fishing zone, 200 nautical miles offshore.	The licence permits the take of pearl oysters by hand. There are five licences in the NT Pearl oyster fishery.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required.	Northern Territory government web site viewed 26/02/2018

			This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	
Mud Crab Fishery (NT)	Crabbing is generally confined to coastal mudflats and estuaries with most commercial activity concentrated in the Gulf of Carpentaria. Some fishers also operate along the north Arnhem Land coast, Van Diemen Gulf, Chambers Bay and west to Anson Bay.	More than 99% of the commercial catch is the giant mud crab, with the rest being the orange mud crab. There are 49 licences for crab fishing in the NT.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Northern Territory government web site viewed 26/02/2018
Trepang Fishery (More commonly known as sea cucumber in the NT)	Commercial fishing for sea cucumber is allowed from the high water mark to three nautical miles seaward from the territorial sea baseline. Most sea cucumbers are collected along the Arnhem Land coast, mainly around the Cobourg Peninsula and Groote Eylandt.	Sandfish are the primary species of sea cucumber. They are harvested by hand either on foot or by diving, usually on neap tides during the dry season when the water is clearer. This fishery has 6 licences.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Northern Territory government web site viewed 26/02/2018
Demersal Fishery (NT)	Commercial fishing is allowed from 15 nautical miles from the low water mark to the outer boundary of the Australian fishing zone, excluding the area of the Timor Reef fishery.	This is a trap, trawl and line fishery landing goldband snapper, red snapper, saddletail snapper, crimson snapper with by-product species including red emperor, cods, painted sweetlip and redspot emperor. There are 18 licences in this quota-controlled fishery.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required.	Northern Territory government web site viewed 26/02/2018



			This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	
Off-shore Net and Line Fisheries (NT)	This fishery operates in all NT waters from the high water mark to the boundary of the Australian fishing zone (AFZ) 200 nautical miles offshore - an area of more than 522,000km. Most fishing is done in the coastal zone within 12 nautical miles of the coast and immediately offshore in the Gulf of Carpentaria.	This is a demersal longline, pelagic longline, longline and pelagic net methodology fishery landing black-tip sharks, grey mackerel, other shark species (hammerhead, bull, tiger, pigeye, lemon, winghead sharks and dusky whalers) with byproduct including Spanish mackerel, longtail tuna, black pomfret and other finfish. This fishery has 17 licences.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Northern Territory government web site viewed 26/02/2018
Spanish Mackerel Fishery	Commercial fishing for Spanish mackerel is allowed from the high water mark to the outer boundary of the Australian fishing zone, which is 200 nautical miles offshore. Most Spanish mackerel are caught off the western and eastern mainland coasts and near islands including Bathurst Island, Groote Eylandt and the Wessel Islands. Fishing generally takes place around reefs, headlands and shoals.	Spanish mackerel is the primary species taken with a small number of other mackerels landed as bycatch. Spanish mackerel are caught via troll lines, floating hand lines or rods. This fishery has 15 licences.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	Northern Territory government web site viewed 26/02/2018
Timor Reef Fishery	This fishery is in a remote region known as the Timor Box. It extends north-west of Darwin to the Western Australia/NT border and to the outer boundary of the Australian fishing zone 200 nautical miles offshore. The area is approximately 8,400 square	Goldband snapper is the primary target species, other key species include saddle-tail snapper, crimson snapper, red emperor and cods. Byproduct species include small snapper (moses snapper and darktail snapper), rock cods, redspot emperor and Robinsons seabream. There are 15 licences in this fishery.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required.	Northern Territory government web site viewed 26/02/2018

	nautical miles.		This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	
Christmas Island and Cocos (Keeling) Island fisheries	This Australian territory is located south-west of the Indonesian archipelago.	Since November 2002, day-to-day management of the fishery within 12 nm is through the Department of Infrastructure and Regional Development. Fishing in waters outside the 12 nm from the islands is managed under the Western Tuna and Billfish Fishery Management Plan 2005. Fish for tuna and tuna-like species.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	AFMA web site viewed 20/02/2018
Northern Prawn Fishery	This fishery is located off Australia's northern coast from Cape York in Queensland to Cape Londonderry in Western Australia	Main target species are Banana prawns ( <i>Fenneropenaeus merguensis</i> ), Tiger prawns ( <i>Penaeus esculentus</i> ) and Endeavour prawns ( <i>Metapenaeus endeavouri</i> ). Bottom trawl fishing gear is used in this fishery. The value of the catch in 2015 was \$106.8 million.	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required. This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	AFMA web site viewed 20/02/2018
North-West Slope Trawl Fishery	The North-West Slope Trawl Fishery is in deep water from the coast of the Prince Regent National Park to Exmouth between the 200 metre depth contour to the outer limit of the Australian Fishing Zone.	Bottom trawling for deepwater prawn and scampi. This is a deepwater fishery, vessels operate in water depths between 200 and 750 metres (licence holder feedback). There are three companies operating in this fishery (licence holder feedback).	This fishery does not overlap the Montara Operations (Five Year Review) specific location and therefore is not a potentially affected party to this activity, accordingly, consultation is not required.	AFMA web site viewed 20/02/2018

			This fishery overlaps the EMBA area, fishery information has been provided for environment plan purposes in the event of a significant spill event.	
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**Source: WAFIC Consultation Report undertaken for PTEPP commencing Montara 5 year review**

### 3. CLASSIFICATION OF RELEVANT PERSONS

In undertaking an assessment of the relevant persons, and to inform what constitutes sufficient information under the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009, each relevant person was classified according to the categories in Table 3 based on the combination of potential for impact and the level of interest of the person or group. A summary table of all relevant stakeholders and their classification is found in Table 4.

**Table 3: Classifications and associated levels of engagement**

Classification	Level of engagement	Description
RP1	Monitor	This category applies to people or groups who have no or low potential risk of impact or low interest. Generally have no activity/function in Operations Area and hence no risk from Planned Operations - but may have be at risk of impact in event of unplanned event.
RP2	Involve – action required	This category applies to people or groups who have a potential risk of impact, interest or from whom a follow up action is required eg. Update maps, marine notices
RP3	Engage	Relevant person who have a high potential risk of impact, high interest or high influence. Often have an interest, activity, function in Operations Area with potential risk from Planned activities
RP4	Regulator	Relevant person with regulatory function in potentially affected
RP5	Response Organisation	Primary interest in activity is commercial to assist in response should an unplanned spill occur

**Table 4: List of relevant persons and classification**

Relevant Stakeholders	Classification
Australian Fisheries Management Authority	RP4
Australian Maritime Safety Authority	RP4
Department of Industry, Innovation and Science	RP4
Department of Defence	RP4
Department of Immigration and Border Protection	RP4
Geoscience Australia	RP4
Director of National Parks	RP4
Department of Foreign Affairs and Trade	RP4
National Native Title Tribunal	RP4
Department of Agriculture and Water Resources	RP4
Australian Hydrographic Service	RP4
Department of Environment and Energy	RP4
Department of Biodiversity, Conservation and Attractions	RP4
Department of Primary Industries and Regional Development (Fisheries)	RP4
Western Australian Museum	RP4
Shire of West Kimberley	RP4
Department of Water and Environmental Regulation	RP4

<b>Relevant Stakeholders</b>	<b>Classification</b>
Department of Mines, Industry Regulation and Safety	RP4
Department of Jobs, Tourism, Science and Innovation	RP4
Department of Transport	RP4
Shire of Wyndham East Kimberley	RP4
Department of Primary Industries and Resources (Primary Industries and Fisheries, Mines and Energy)	RP4
Northern Territory Environmental Protection Authority	RP4
Department of Tourism and Culture (Parks and Wildlife Commission of the Northern Territory, Tourism NT)	RP4
Department of Environment and Natural Resources	RP4
Department of the Chief Minister	RP4
Department of Infrastructure, Planning and Logistics	RP4
Commonwealth Fisheries Association	RP3
Northern Territory Seafood Council	RP3
Pearl Producers Association	RP1
Western Australian Fishing Industry Council	RP3
Australian Southern Bluefin Tuna Industry Association	RP1
Northern Prawn Fishing Industry Pty Ltd	RP1
Australian Fisheries Trade Association	RP1
Western Tuna and Billfish Fishery licence holders	RP3
Joint Authority Northern Shark Fishery licence holders	RP3
Mackerel Managed Fishery (Area 1) licence holders	RP3
Northern Demersal Scalefish Fishery (Area 2) licence holders	RP3
Recfishwest	RP1
Amateur Fisherman's Association of the NT	RP1
Kimberley Bird Watching	RP1
Australian Northwest Tourism	RP1
Kimberley Expeditions	RP1
Tourism Western Australia	RP1
Tourism Top end	RP1
Australian Petroleum Production and Exploration Association	RP1
Melbana Energy Limited	RP1
Bounty Oil & Gas NL	RP1
Eni Australia Limited	RP1
Murphy Australia Oil Pty Ltd	RP1
Finder Pty Limited	RP1
NOGA	RP5
OSRL (Oil Spill Response)	RP5
Aerotech	RP5
AIP	RP5
AMOSC	RP5
WA Conservation Council	RP1
World Wildlife Fund	RP1
Environs Kimberley	RP1
Greenpeace	RP1

<b>Relevant Stakeholders</b>	<b>Classification</b>
The Wilderness Society	RP1
International Fund for Animal Welfare	RP1
Save the Kimberley	RP1
Australian Marine Conservation Society	RP1
Australian Institute of Marine Science	RP1
Western Australian Marine Science Institute	RP1
Commonwealth Scientific and Industrial Research Organisation	RP1
North Australian Indigenous Land & Sea Management Alliance	RP1
Northern Land Council	RP1
Tiwi Land Council	RP1
Kimberley Land Council	RP1
Darwin Port Authority	RP1
Kimberley Port Authority	RP1
Pilbara Port Authority	RP1
Hon Josh Frydenberg - Minister for Environment & Energy	RP1
Senator the Hon Matt Canavan - Minister for Resources and Northern Australia	RP1
Hon Greg Hunt - Minister for Industry, Innovation & Science	RP1
<b>Other</b>	
IMS consultant	RP2
Jacobs	RP5

### **Sufficiency of Information**

A copy of the information sheets developed are attached:

- General Information Sheet – Attachment G1
- Fisheries Information Sheet – Attachment G2

### **Relevant person communication log**

The Sensitive Information Report (SIR) submitted to NOPSEMA summarises relevant person feedback and our response. For each relevant person the following information is provided:

- dates and methods of all consultation events with that relevant person
- a summary of the feedback received from that relevant person for each event
- a statement of our response, or proposed response, as a result of the consultation (where appropriate)
- a summary of the arrangement for ongoing consultation with that relevant person.

**Table 5: Relevant persons' engagement log**

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
Australian Fisheries Management Authority	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Australian Maritime Safety Authority	16 Oct 2018	SENT	How: Email	AMSA:1	Chemical dispersant Supply Advice - confirmation of AMSA stock and location	N/A
	8 Nov 2018	RECEIVED	How: Email	AMSA:1	Confirmation 8/11/18 of AMSA availability of stockpiles. AMSA will not hold back stock of dispersants. Depending on the circumstances, e.g. concurrent incidents, the entirety of the AMSA stockpile would be available. Supply of dispersant can be transported to arrive in time for application, that is, while it might not all be transported overnight there will always be enough delivered to maintain dispersant spraying operations.	OPEP information updated
	8 Nov 2018	SENT	How: Phone call	AMSA:2	Updates to the current JSOP - JSOP is due for update however changes are minor and would not impact the development of the Air Ops Plan. b. Airport services - Airport arrangements, AMSA have no standing arrangements and would seek to organise these at time of mobilisation depending on what was required (means JSE probably need to engage airport operator separately) c. Air Attack Supervisors (AAS) - still no formal arrangement in place. States were supposed to make arrangements, such as MOU but this has not been completed either (potential need for JSE to engage directly with WA DFES and discuss MOU – WL to follow up)	WL to address separately in support of developing the JSE Air Ops Plan for Stag/Montara response operations.



Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	19 Nov 2019	RECEIVED	How: Email	AMSA:3	Containing updated vessel traffic plot, noting heavy vessels passing through permit area to the north of Montara Venture FPSO in Osborn Passage. Notification requirements	Refer to Assessment of Merits Table. Notification requirements incorporated into triggered consultation in EP.
	22 Feb 2019	SENT	How: Call/email	AMSA:4	AMSA MOU – confirmation of correct signing Response personnel – Confirmation of wording regarding number of personnel” “Under the provisions of the AMSA MOU, Jadestone Energy will be able to request support from the NRT (63 personnel based on the current arrangements in place between AMSA and the State/Territory Governments) to assist with spill response operations. The provision of NRT will be at the discretion of AMSA and based on best endeavours associated with the sourcing of NRT from their respective State and Territory organisations.”	Awaiting response with regard to accessing the National Response Team
Department of Industry, Innovation and Science	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Department of Defence	12 Nov 2018	SENT	How: Email	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
			Supplementary: General Information sheet		with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Department of Immigration and Border Protection	12 Nov 2019	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	Email bounced
	12 Nov 2019	SENT	Hardcopy of general information sheet sent to Canberra address	N/A	Copy of information sheet sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
Geoscience Australia	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Director of National Parks	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet and additional MP addendum	DNP:1	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
	25 Feb	RECEIVED		DNP:2	Consider NW Marine Parks network MP	Refer to

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	2018		How: Email		Consider NOPSEMA guidance note esp. ensure identify and manage impacts and risks to AMPs and reduce to ALARP, demonstrate not inconsistent with MP and notify DNP if EP approved by NOPSEMA. Notification of DNP in event of an Emergency Response within or likely to impact a AMP (noting details)	Assessment of Merit Table
Department of Foreign Affairs and Trade	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
National Native Title Tribunal	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Department of Agriculture and Water Resources	12 Nov 2018	SENT	How: Email What: Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	23 Nov 2018	SENT	How: Phone call/Email	Agric:1	Confirmation regarding FSO (Stag) and general contact for other JSE IMS	N/A
	6 Dec 2018	RECEIVED	How: Phone call/Email	Agric: 2	Response 6 Dec 2018- Provided references and contact details.	Contact details noted and references used to

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
						inform IMS plan
Australian Hydrographic Service	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	12 Nov 2018	RECEIVED	How: Email	AHO:1	Email acknowledgement that information has been received by the AHO and will be actioned.	N/A
Department of Environment and Energy	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	12 Nov 2018	RECEIVED	How: Email Supplementary: General Information sheet	DoEE:1	Response 12/11 noting DoEE not a relevant person as NOPSEMA authorisation will encompass DoEE	DoEE removed from relevant person list
Department of Biodiversity, Conservation and Attractions	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	14 Nov 2018	RECEIVED	How: email	DBCA:1	No objection or concern has been raised in relation to operating activities as in Commonwealth waters.	Stakeholder database updated
Department of Primary Industries and Regional Development (Fisheries)	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Nov 2018	RECEIVED	How: Email	DPRID:1	Consideration of use of vessel check Notification requirements	Refer to Assessment of Merit Table

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	27 Nov 2018	RECEIVED	How: Email	DPIRD:2	Specific strategies for spawning grounds in OPEP Response received from DPIRD management Notification of commencement of activities Recommend consultation with WAFIC, Recfishwest, PPA and commercial fishers Request for baseline data in OPEP development and make available data to department	Refer to Assessment of Merit Table
	16 Nov 2018	SENT	How: Email/phone	DPIRD:3	Confirmation of telephone conversation regarding vessel interactions, high risk ports	N/A
	22 Nov 2018	RECEIVED	How: Email	DPIRD:4	Response to email DPIRD:3. Dampier is classified as a high risk port due to number of vessel movements not due to the site being high risk. Focus on STAG platform but learnings relevant to Montara	Details noted and IMS plan updated
	4 Dec 2018	SENT	How: Email	DPIRD:5	Clarification of NOPSEMA reference to high risk port (Dampier)	Details noted and IMS plan updated
	6 Dec 2018	RECEIVED	How: Email	DPIRD:6	Pending response once staff back	N/A
	11 Dec 2018	RECEIVED	How: Email	DPIRD:7	Response confirming <i>Didemnum perlucidum</i> established at Dampier and appropriate management	Details noted and IMS plan updated
Western Australian Museum	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
	25 Feb 2019	RECEIVED	How: Email	WAM:1	WA Museum will be providing comment but still being finalised	JSE follow up if no response received by 28 Feb 2019

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
Shire of West Kimberley	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Department of Water and Environmental Regulation	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Department of Mines, Industry Regulation and Safety	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Nov 2018	RECEIVED	How: Email	DMIRS:1	Acknowledgement of change of ownership. Information package reviewed and no further information requested. Suggested including more key distances in information pack. No objection or concern has been raised in relation to operating activities.	Recommendation for change to information pack noted for future consultation and supplementary information sent to Director of NP.
Department of Jobs, Tourism, Science and Innovation	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Department of Transport	1 Nov 2018	SENT	How: Email	DoT:1	Jadestone will submit the OPEP and supporting documents to DoT as per the IGN upon submission of the Montara EP to NOPSEMA Jadestone will set up regular meetings with DoT to provide an update on the transitional process DoT review focus for the OPEP is to ensure that Jadestone has the response arrangements in place to allow DoT to use and is aligned with the IGN	No response required from DoT to email if accurate representation of meeting outcomes.
	6 Nov 2018	SENT	How: Email	DoT:2	IMT Personnel requirements: six positions are generic in nature and that with oversight from the Deputy I/C any specific issues can be managed at the time. From our perspective, Public Information and Finance are roles which must be undertaken by suitable trained and experienced JSE staff only Current contractual arrangements with AMOSC are in place.	N/A
	6 Nov 2018	RECEIVED	How: Email	DoT:2	DoT's expectations as outlined in the IGN, the Deputy Planning Officer and Deputy Logistics Officer, to be provided as part of the initial DoT IMT Personnel Requirements, must have intimate knowledge of the relevant PT OPEP and planning processes, and the PT logistics processes and contracts, respectively. For those reasons, we see these roles belonging to Jadestone personnel rather than AMOSC personnel.	Refer to Assessment of Merit Table where response to this issue provided.
	19 Nov 2018	SENT	How: Email	DoT:3	Notification of provision of EP, OPEP and OSR Arrangements	N/A
	10 Dec	RECEIVED		DoT:3	Page turn review not completed – focus on spill	Refer to

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	2018		How: Email Attachments		response arrangements Copy of most recent IGN and State Hazard Plan	Assessment of Merit Table for Response
	25 Feb 2019	SENT	How: Email Supplementary information: OPEP review response and IMT response plan	DoT:4	Copy of responses as per Response to Merit Table provided to DoT along with supporting information in the IMT response plan	N/A
Shire of Wyndham East Kimberley	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Department of Primary Industries and Resources (Primary Industries and Fisheries, Mines and Energy)	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	23 Nov 2018	SENT	How: Email	DPIR:1	Request for point of contact and guidance	N/A
	12 Nov 2018	RECEIVED	How: Email/Phone	DPIR:1	Recommend following national guidelines Support the use of WA vessel check system References provided	National guidelines references in the development of the IMS strategy WA Vessel check system will be used



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Northern Territory Environmental Protection Authority	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Department of Tourism and Culture (Parks and Wildlife Commission of the Northern Territory, Tourism NT)	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Department of Environment and Natural Resources	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Department of the Chief Minister	12 Nov 2018	SENT	How: Mail Supplementary: General Information sheet	G3:1	Hardcopy sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	20 Nov 2018	RECEIVED	How: Email		Advising forwarded on to Hon Ken Vowles MLA responsible for Primary Industry and Resources. No objection or concern has been raised in relation to operating activities.	Informed and updated. Consideration of whether a relevant stakeholder for

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
						ongoing consultation.
Department of Infrastructure, Planning and Logistics	12 Nov 2018	SENT	How: Mail Supplementary: General Information sheet	G3:1	Mail sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	6 Feb 2018	SENT	How: Email	DIPL:1	Invitation to engage	N/A
	7 Feb 2018	RECEIVED	How: Email	DIPL:1	NT Oil spill contingency plan (2014) currently under review Industry plans should follow National Plan for Maritime Env Emergencies and AMSA and NOPSEMA guidance NT pollution hotline contact details provided Contact details for harbour master for advice regarding capacity for offshore response to spill	Refer to Assessment of Merit Table
	7 Feb 2019	SENT	How: Email	DIPL:1	Arrangement for phone call regarding confirmation of NT arrangements	
	8 Feb 2019	RECEIVED	How: Email	DIPL:1	Provision of harbour master details NT limited resourcing to respond to a spill – quickly escalates to NRT. AMSA stockpile in Darwin.	WL to arrange contact
	14 Feb 2019	SENT	How: Email	DIPL:1	Arrange phone call to discuss NT arrangements specifically preference for multiple IMT cf. combined IMT	WL to call contact provided
	21 Feb 2019	SENT	How: Email	DIPL:2	Proposed draft NT response arrangements based on discussion with contact. Please consult other stakeholders. Want to include in OSRA document	N/A
	21 Feb 2019	RECEIVED	How: Email	DIPL:2	Need to discuss with Peter Vasel (Director). Confirmation of timing for feedback	
	21 Feb	SENT		DIPL:2	End of next week fine for comments	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	2019		How: Email			
	21 Feb 2019	RECEIVED	How: Email	DIPL:2	Confirmation comments will be provided by 28/02/19	WL to follow up for comments if not received
Commonwealth Fisheries Association	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	Email bounce: hardcopy sent via mail
	12 Nov 2018	SENT	How: Mail Supplementary: General Information sheet		Hardcopy sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
Northern Territory Seafood Council	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Pearl Producers Association	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Western Australian Fishing	10 Nov 2018	SENT	How: Email	WAFIC:1	Distribution of JSE Information sheet to fishers	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
Industry Council	12 Nov 2018	RECEIVED	How: Email	WAFIC:2	Requesting consideration of more detailed response to previous queries raised with PTEPP.	Refer to Assessment of Merit Table. Response to PTEPP issues included in package sent to previous responders.
	14 Nov 2018	SENT	How: Email	WAFIC:3	Reply noting that response to PTEPP issues will be included in package sent to previous responders	Include Reponse to PTEPP issues doc in package sent to previous responders
	19 Nov 2018	RECEIVED	How: Email	WAFIC:4	Response in relation to PTEPP article in paper seeking clarification of safety, maintenance and risk reduction and existing issues leading to ceasing of production.	Reply drafted.
	Nov 2018	SENT	How: Email	WAFIC:5	Response to WAFIC outlining JSE position and commitments. This was forwarded by WAFIC to fishers on 20.11.18	No change to EP required
Australian Southern Bluefin Tuna Industry Association	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Northern Prawn Fishing Industry Pty Ltd	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:3	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
	25 Feb 2018	RECEIVED	How: Email	NPL:1	No further comment on previous consultation with PTEPP. Continue to include as relevant person	No action required
Australian Fisheries Trade Association	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Western Tuna and Billfish Fishery licence holders	12 Nov 2018	SENT	How: Email Supplementary: Fisheries Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	Due to previous PTEPP consultation through WAFIC on this EP and WAFICs comments on stakeholder fatigue no further follow up was undertaken.
Joint Authority Northern Shark Fishery licence holders	12 Nov 2018	SENT	Who: All licence holders West Coast Fishery (based on list obtained DPIRD Nov 18) How: Mail Supplementary: Fisheries Information sheet	N/A	Mail sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	Due to previous PTEPP consultation through WAFIC on this EP and WAFICs comments on stakeholder fatigue no further follow up was undertaken.

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
Mackerel Managed Fishery (Area 1) licence holders	12 Nov 2018	SENT	Who: All licence holders Area 1 of Fishery (based on list obtained DPIRD Nov 18) How: Mail What: Information sheet	G3:3	Mail sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	19 Nov 2018	RECEIVED	How: Email	Mack:1	Response received. Issues with email. Given nature of fishery difficult to see gear conflict. Asked to be kept informed	Email address tested. Additional name added to contact list
	22 Nov 2018	SENT	How: Email	Mack:1	Reply from JSE to contact. Stakeholder kept on stakeholder contact list and additional name added.	N/A
Northern Demersal Scalefish Fishery (Area 2) licence holders	12 Nov 2018	SENT	Who: All licence holders Area 2 Fishery (based on list obtained DPIRD Nov 18) When: 12 Nov 2018 How: Mail What: Information sheet	G3:3	Mail sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	Due to previous PTEPP consultation through WAFIC on this EP and WAFICs comments on stakeholder fatigue no further follow up was undertaken.
Recfishwest	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Amateur Fisherman's Association of	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
the NT					impacts and risks (and associated management controls). Feedback requested.	
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Kimberley Bird Watching	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Australian Northwest Tourism	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Kimberley Expeditions	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Tourism Western Australia	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
					impacts and risks (and associated management controls). Feedback requested.	
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Tourism Top end	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Australian Petroleum Production and Exploration Association	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Melbana Energy Limited	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Bounty Oil & Gas NL	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A



Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Eni Australia Limited	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Murphy Australia Oil Pty Ltd	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Finder Pty Limited	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
NOGA	9 Nov 2018	SENT	How: Phone call/Email	NOGA:1	Confirmation of phone call regarding spill response waste reprocessing by NOGA	No response and this management action was not pursued.
OSRL (Oil Spill Response)	29 Aug 2018	RECEIVED	How: Meeting/Email	OSRL:1	Copy of presentation and technical sheet provided	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	9 Oct 2018	SENT	How: Emails	OSRL:2	Questions regarding aerial dispersants and OSRL capabilities	Information provided by OSRL
	9 Oct 2018	RECEIVED	How: Email	OSRL:2	Forwarded to aviation team	Information provided by OSRL
	12 Oct 2018	RECEIVED	How: Email	OSRL:2	Response from aviation team confirming: Large aircraft mobilisation time Dispersant load capacity per sortie Number of sorties per day Response from OSRL on 16 Oct providing initial flight times and dispersant availability	Information provided by OSRL
	12 Oct 2018	SENT	How: Email	OSRL:2	Amount of dispersant can we get from OSRL to Darwin and in what timeframe	N/A
	15 Oct 2018	SENT	How: Email	OSRL:3	Dispersant schedule: How much dispersant can we expect on Day 7 and at what rate of delivery please? When could we expect the GDS to kick in and at what rate of delivery please?	N/A
	15 Oct 2018	RECEIVED	How: Email	OSRL:3	Detailed overview of dispersant schedule and availability provided	Noted and considered in the development of the OPEP
	26 Feb 2019	SENT	How: Email	OSRL:4	Possibility of contracting additional OSRL Ops staff – additional 20	N/A
	26 Feb 2019	RECEIVED	How: Email	OSRL:4	Additional pool of 70 training responders subject to availability. Not guaranteed	Noted and considered in the development of the OPEP
	2 Oct 2018	RECEIVED	How: Email	OSRL:5	Indicative pricing for OSRL membership	N/A
	13 Nov 2018	RECEIVED	How: Email	OSRL:5	Follow up	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	14 Nov 2018	SENT	How: Email	OSRL:5	Likely JSE join Q1/2 2019 Request for membership application form	N/A
	14 Nov 2018	RECEIVED	How: Email	OSRL:5	Copy of membership form provided	N/A
	14 Nov 2018	RECEIVED	How: Email	OSRL:5	GDS service information	N/A
	16 Nov 2018	SENT	How: Email	OSRL:5	Thank you	N/A
	5 and 10 Dec 2018	RECEIVED	How: Email	OSRL:5	Follow up	N/A
	6 Dec 2018	SENT	How: Email	OSRL:5	Noted still reviewing documents	N/A
Aerotech	11 Oct 2018	SENT	How: Email/Phone Conversation	AERO:1	Questions regarding aerial dispersants	No response received until future correspondence below. Dispersant advice received from OSRL
	8 Nov 2018		How: Phone Conversation What: Questions regarding Darwin operations	AERO:2	Provided clarification that AFR have only stand up capability (on direction from AMSA) and that their responsibilities remain with the provision of the aircraft/crew/ground personnel. All airport arrangements remain with AMSA	Noted and considered in the development of the OPEP
AMOSC	1 Nov 2018	SENT	How: Email What: Request for AMOCS and CG support		Confirmation of AMOSC support	Ongoing
WA Conservation Council	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
World Wildlife Fund	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Environs Kimberley	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Greenpeace	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
	25 Feb 2019	RECEIVED	How: Email	GREEN:1	Request to be removed as a relevant person	Stakeholder database updated
The Wilderness Society	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
International Fund for Animal Welfare	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Save the Kimberley	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Australian Marine Conservation Society	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Australian Institute of Marine Science	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
			Supplementary: General Information		before the close of business on 25 February 2019	
Western Australian Marine Science Institute	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Commonwealth Scientific and Industrial Research Organisation	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	15 Nov 2018	RECEIVED	How: Email	CSIRO:1	Information sheet forwarded to Nerida Horner. No objection or concern has been raised in relation to operating activities.	N/A
North Australian Indigenous Land & Sea Management Alliance	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Northern Land Council	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
Tiwi Land Council	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:3	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Kimberley Land Council	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information sheet	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Darwin Port Authority	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
	25 Feb 2019	RECEIVED	How: Email	DP:1	No comments. Update contact details	Updated stakeholder database
Kimberley Port Authority	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you	N/A

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
			Supplementary: General Information		before the close of business on 25 February 2019	
Pilbara Port Authority	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
	22 Feb 2019	SENT	How: Email Supplementary: General Information	G3:2	Given no response to previous correspondence, will assume no comment unless we hear from you before the close of business on 25 February 2019	N/A
Hon Josh Frydenberg - Minister for Environment & Energy	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
Senator the Hon Matt Canavan - Minister for Resources and Northern Australia	12 Nov 2018	SENT	How: Email Supplementary: General Information sheet	G3:1	Email sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
Hon Greg Hunt - Minister for Industry, Innovation & Science	12 Nov 2018	SENT	How: Mail Supplementary: General Information sheet	G3:1	Mail sent to stakeholder with information on Montara Operations EP. Attached was a factsheet with information on the potential environmental impacts and risks (and associated management controls). Feedback requested.	N/A
Craig Astbury (IMS consultant)	23 Nov 2018	SENT	How: Email	CA:1	Request for guidance on risk estimators	N/A
	10 Dec 2018	RECEIVED	How: Email	CA:1	Advice regarding IMS risk assessment tools	Advice considered in the development of the IMS plan
Oceaneering	24 Feb	SENT		OCEAN:1	provide me with the relevant information pertaining	Pending response



Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/status
	2019		How: Email		to setting up the OTA and any additional information that may be available specifically around the SFRT that would be pertinent.	

**General  
Information  
Sheet**



# Invitation for Consultation

# Invitation for Consultation

**Jadestone Energy has recently purchased the existing Montara Operations Activity from PTTEP. Jadestone is preparing an Environment Plan for operation of the facilities that will be assessed and accepted by the National Offshore Petroleum Regulatory Authority prior to Jadestone taking over operation of the Montara facilities.**

**We understand that PTTEP, the current Operator, has already been in contact with you regarding their intended review of the Operations Environment Plan. PTTEP has passed on issues and information you provided them directly to us.**

**Jadestone is considering any referred information, and we welcome any other information or questions you may have about our intended operation of the Montara facilities. Our engagement directly with you is a requirement due to change in operator, and to provide you with information on how best to contact us.**



## Who is Jadestone Energy?

Jadestone Energy (Jadestone) is an Asia Pacific based oil and gas exploration and production company listed on the TSX Venture Exchange (TSXV: JSE) and on AIM (JSE).

*Jadestone Energy is committed to preventing all health, safety and environmental incidents and complying with all regulatory requirements. Incidents of this nature are preventable and we will strive to operate in a way that does not harm the environment.*

## What is an Environment Plan?

The purpose of an Environment Plan (EP) is to identify the proposed petroleum activity's impacts on and risks to the receiving environment. The EP also sets out measures to reduce the identified environmental impacts and risks of the activity and describe how and to what standard those measures will be implemented throughout the activity; this includes emergency situations.

The Montara Operations EP does this for oil extracted from production wells in each of the Montara, Skua, Swift and Swallow fields and its transportation in flow

lines to the Montara Venture Floating, Production, Storage and Offtake facility via the Montara wellhead platform.

## Length of EP renewal

Montara production commenced Quarter 2 2013. The operation is expected to extend approximately 12 years. Jadestone is seeking a standard 5 year renewal of the EP.

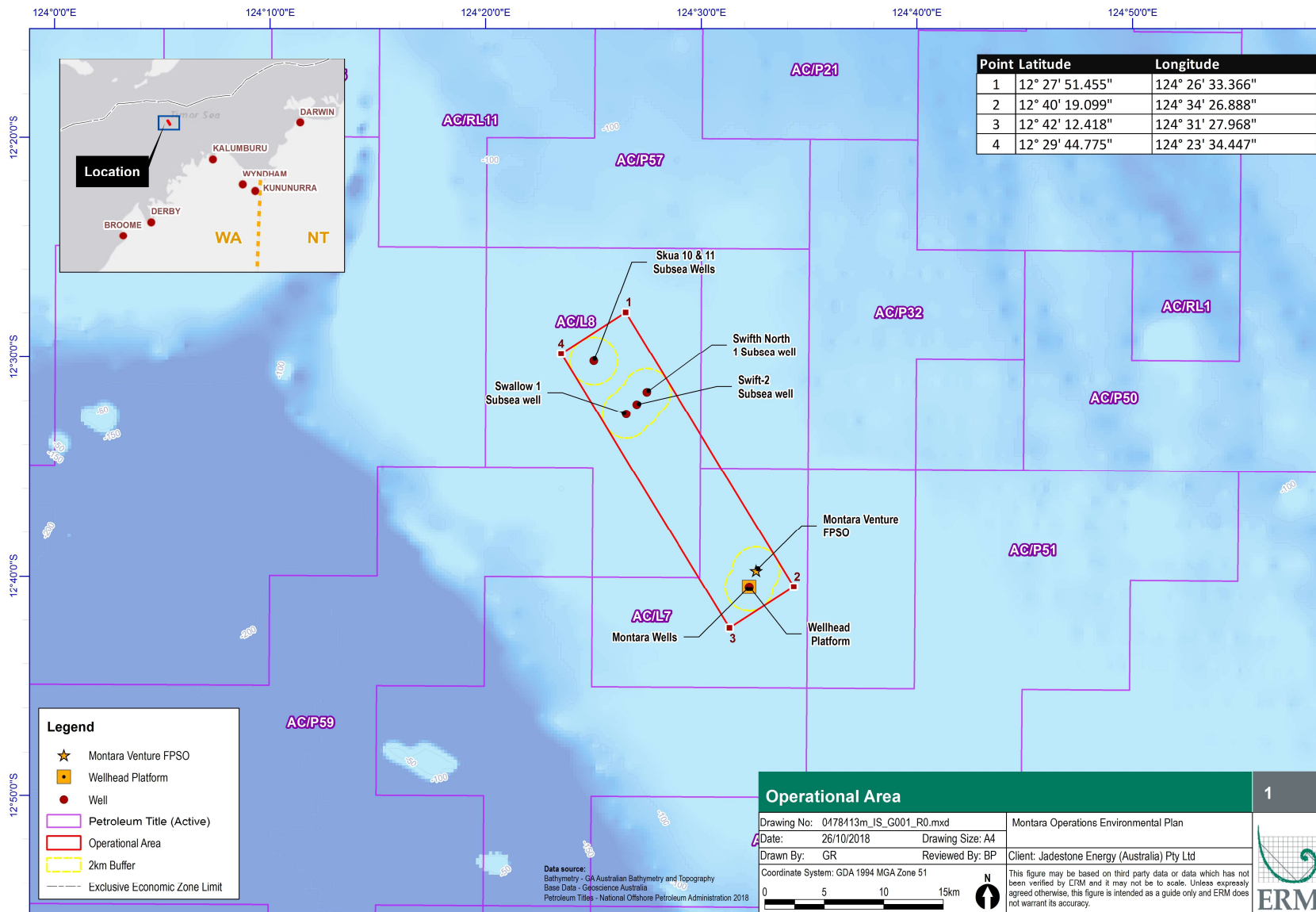
## Location

The Montara development is located in the Timor Sea, approximately 690 km west of Darwin (**Figure 1**). The permit areas (AC/L7 Montara field and AC/L8 Skua, Swift and Swallow fields) are in Australian waters.

All planned activities will be contained within the Operational Area. Approximate location details are provided below.

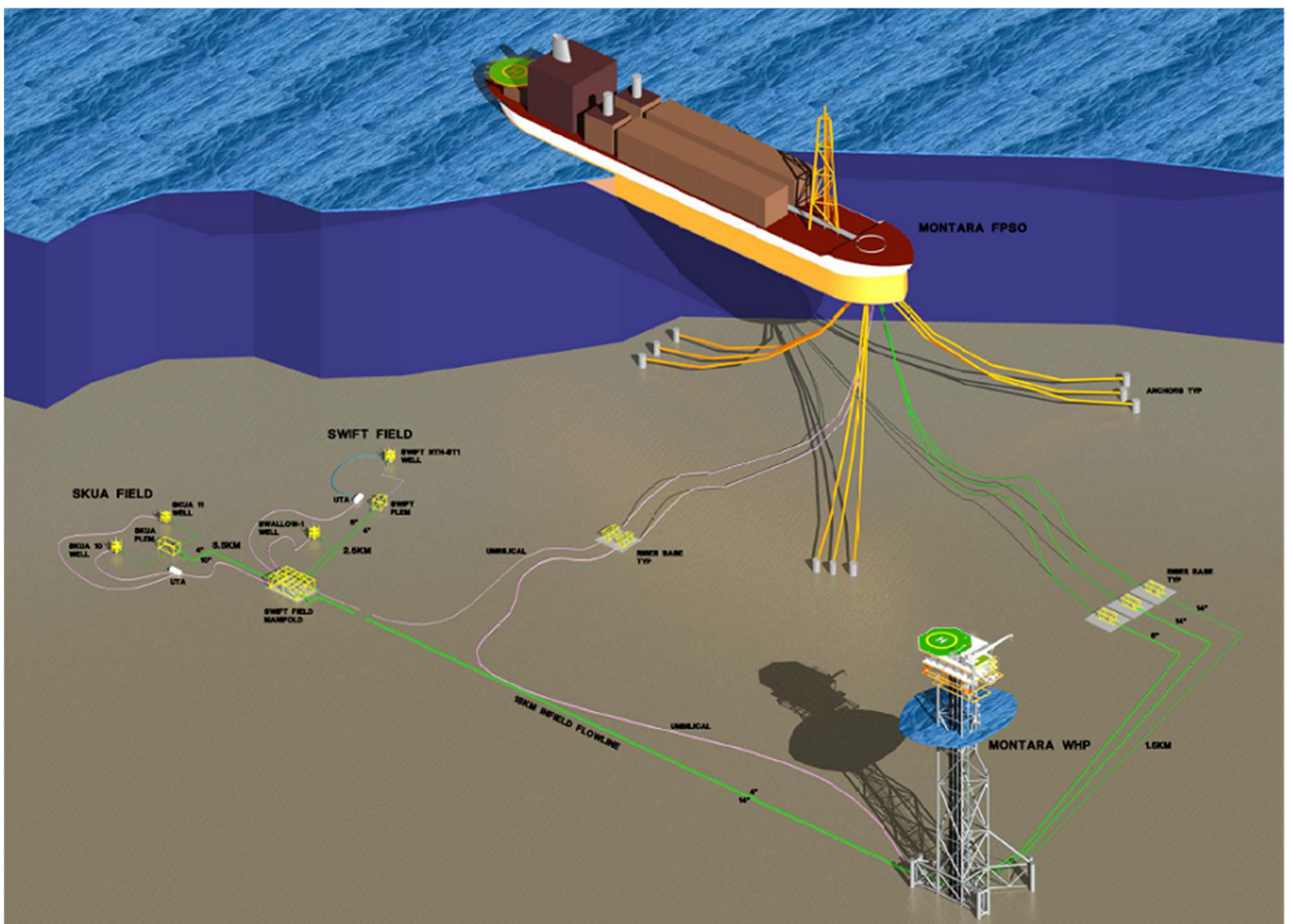
- Lat: 12°39'35.3"S: Long:124°32'41.1"E  
(GDA 94, Zone 51)
- Approximate water depth ~ 80 m LAT

Figure 1 – Montara Operational Area



## Montara Facility

- A floating production, storage and offtake (FPSO) facility and its associated mooring system
- An unmanned well head platform (WHP) at the Montara field
- Five subsea wells at the Skua, Swift and Swallow fields
- Production flowline system
- Gas lift flowline system
- Three infield control umbilicals
- A subsea manifold in the Swift field
- Support/supply vessels, work vessels and tug boats
- Helicopter support



## Operational Area Environmental Values

There are 20 *Environment Protection Biodiversity Conservation Act* protected species that have the potential to occur within the Operational area, including whales, turtles, whale sharks and birds. There are no Matters of National Environmental Significance in the Operational Area.

<b>Australian Marine Parks</b>	Not present
<b>World Heritage</b>	Not present
<b>Ramsar Wetlands</b>	Not present
<b>National Heritage Places</b>	Not present
<b>Commonwealth Heritage Places</b>	Not present
<b>Threatened Ecological Communities</b>	Not present
<b>State and Territory Marine Parks</b>	Not present
<b>Key Ecological Features (KEFs)</b>	Not present

The benthic habitat in the Operational area is generally sandy seabed that is well represented in the region.

In the event of an unplanned event (e.g. hydrocarbon spill), the values in a broader Environment that May be Affected (EMBA) have been identified to enable key habitats or locations of particular value in the region to be responded to as protection priorities.

## Potential risks

A summary of potential risks and associated management measures is provided below.

Potential Risks	Mitigation and /or Management Measure
Planned activities	
Exclusion zone for marine users	<ul style="list-style-type: none"> <li>A 500m petroleum safety zone is in place around the facility for duration of operations. No vessels are to enter this zone.</li> <li>Notice to Mariners</li> </ul>
Noise and Light emissions	<ul style="list-style-type: none"> <li>Operational measures will be taken to protect marine fauna and ecosystems from noise and light emissions during the Activity.</li> <li>Compliance with EPBC legislation</li> </ul>
Effluent discharge and waste management	<ul style="list-style-type: none"> <li>Routine discharges will meet legal requirements.</li> <li>Waste Management Plan</li> </ul>
Produced water	<ul style="list-style-type: none"> <li>Produced water will be modelled and monitored to manage discharges to and acceptable levels of environmental performance</li> </ul>

Potential Risks	Mitigation and /or Management Measure
Unplanned risks	
Vessel collision	<ul style="list-style-type: none"> <li>Marine notifications will be made to relevant stakeholders, describing the location of the activity and a 500 m exclusion zone to prevent the risk of vessel collisions</li> </ul>
Hydrocarbon release	<ul style="list-style-type: none"> <li>Oil Pollution Emergency Plan</li> <li>Appropriate vessel spill response plans, equipment and materials will be in place and maintained</li> <li>Appropriate refuelling procedures and equipment will be used to prevent spills to the marine environment</li> </ul>
Introduced Marine Species (IMS)	<ul style="list-style-type: none"> <li>IMS Management will meet legal requirements and reduce risks to ALARP and Acceptable levels.</li> </ul>

## Providing Feedback

If you would like to comment on the proposed activity outlined in this fact sheet or would like additional information, please contact Jadestone before 01 Dec 2018.

Email: [consult@jadestone-energy.com.au](mailto:consult@jadestone-energy.com.au)

Phone: 08 9486 6600

We have moved... our Perth office is now located at: L8, 1 William Street, Perth 6000, WA

All other contact details remain the same.



**Fisheries  
Information  
Sheet**





# Invitation for Consultation

## Fishing sector

# Invitation for Consultation

**Jadestone Energy has recently purchased the existing Montara Operations Activity from PTTEP. Jadestone is preparing an Environment Plan for operation of the facilities that will be assessed and accepted by the National Offshore Petroleum Regulatory Authority prior to Jadestone taking over operation of the Montara facilities.**

**We understand that PTTEP, the current Operator, has already been in contact with you through the WA Fisheries Industry Council regarding their intended review of the Operations Environment Plan. PTTEP has passed on issues and information you provided them directly to us.**

**Jadestone is considering any referred information, and we welcome any other information or questions you may have about our intended operation of the Montara facilities. Our engagement directly with you is a requirement due to change in operator, and to provide you with information on how to best contact us.**



## Who is Jadestone Energy?

Jadestone Energy (Jadestone) is an Asia Pacific based oil and gas exploration and production company listed on the TSX Venture Exchange (TSXV: JSE) and on AIM (JSE).

*Jadestone Energy is committed to preventing all health, safety and environmental incidents and complying with all regulatory requirements. Incidents of this nature are preventable and we will strive to operate in a way that does not harm the environment.*

## What is an Environment Plan?

The purpose of an Environment Plan (EP) is to identify the proposed petroleum activity's impacts on and risks to the receiving environment. The EP also sets out measures to reduce identified environmental impacts and risks due to the activity and describe how and to what level of performance those measures will be implemented throughout the activity; this includes emergency situations. The Montara Operations EP does this for oil extracted from production wells in each of the Montara, Skua, Swift and Swallow fields and its transportation in flow lines to the Montara Venture Floating, Production, Storage and Offtake facility via the Montara wellhead platform.

## Length of EP renewal

Montara production commenced in Quarter 2 2013. The Montara Development is expected to have a project life of approximately 12 years. Jadestone is seeking the standard 5 year renewal of the Environment Plan.

## Location

The Montara development is located in the Timor Sea, approximately 690 km west of Darwin (**Figure 1**). The permit areas (AC/L7 Montara field and AC/L8 Skua, Swift and Swallow fields) are in Australian waters.

All operational activities managed under the EP will be contained within the operational area in ~80 m water depth. Approximate location details are:

- Lat: 12°39'35.3"S: Long:124°32'41.1"E (GDA 94, Zone 51)

In the event of an accidental event (e.g. hydrocarbon spill), the values in a broader Environment that May be Affected (EMBA) have been identified to enable key habitats or locations of particular value in the region to be responded to as protection priorities.

# What fisheries may be affected?

Jadestone understands from the Department of Primary Industry and Resources Department that the **Northern Demersal Scalefish** is the only managed fishery active in the operational area since 2015. Other fisheries that are licensed to operate and may utilise this area in the future include:

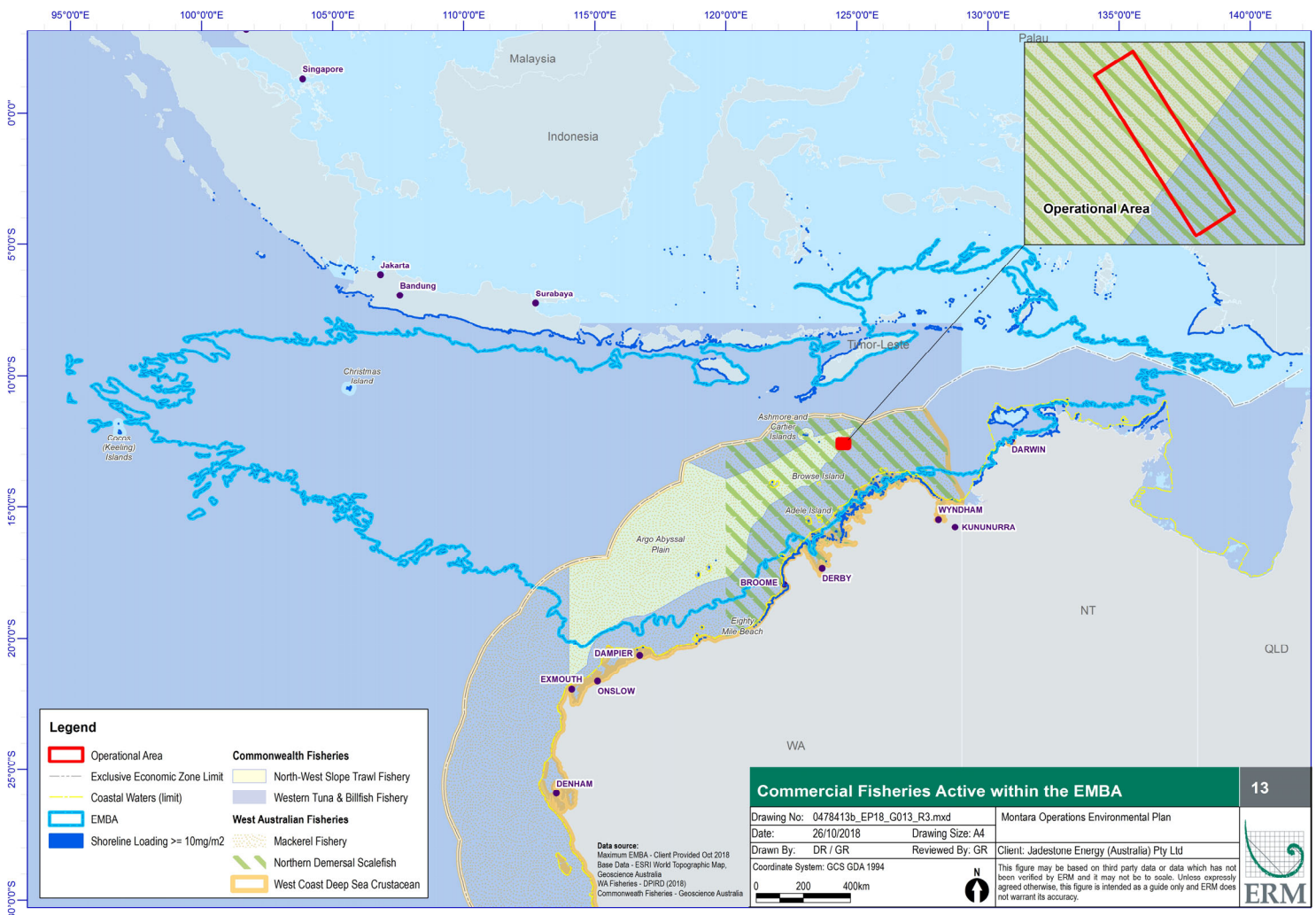
- **Western Tuna and Billfish (Commonwealth)**
- **Joint Authority Northern Shark Fishery (WA)**
- **Mackerel Fishery (WA)**

These fisheries will be Jadestone’s focus for consultation. Consultation for other fisheries regarding the development of the EP will take place through notification of State and Commonwealth representative bodies.

In the unlikely event of a hydrocarbon spill, Jadestone will conduct extensive and immediate consultation with other fisheries licensed to operate within the broader Environment that May be Affected.



**Figure 1 – Location and fisheries that may utilise the Operations Area**



# Potential risks to fishing sector

A summary of potential risks to the fishery sector and associated management measures is provided below.

Potential Risks	Mitigation and /or Management Measure
Planned activities	
Exclusion zone for marine users	<ul style="list-style-type: none"> <li>• A 500m petroleum safety zone is in place around the facility for duration of operations. No fishing vessels are to enter this zone.</li> <li>• Notice to Mariners</li> </ul>
Noise and Light emissions	<ul style="list-style-type: none"> <li>• Operational measures will be taken to protect marine fauna and ecosystems from noise and light emissions during the Activity.</li> <li>• Compliance with EPBC legislation</li> </ul>
Effluent discharge and waste management	<ul style="list-style-type: none"> <li>• Routine discharges will meet legal requirements.</li> <li>• Waste Management Plan</li> </ul>
Produced water	<ul style="list-style-type: none"> <li>• Produced water will be modelled and monitored to manage discharges to acceptable levels of environmental performance</li> </ul>
Unplanned risks	
Vessel collision	<ul style="list-style-type: none"> <li>• Marine notifications will be made to relevant stakeholders, describing the location of the activity and a 500 m petroleum safety zone is present to prevent the risk of vessel collisions</li> </ul>
Hydrocarbon spill	<ul style="list-style-type: none"> <li>• Oil Pollution Emergency Plan</li> <li>• Appropriate vessel spill response plans, equipment and materials will be in place and maintained</li> <li>• Appropriate refuelling procedures and equipment will be used to prevent spills to the marine environment</li> </ul>
Introduced Marine Species (IMS)	<ul style="list-style-type: none"> <li>• IMS Management will meet legal requirements and reduce risks to ALARP and Acceptable levels.</li> </ul>

## Providing Feedback

If you would like to comment on the proposed activity outlined in this fact sheet or would like additional information, please contact Jadestone before 01 December 2018.

Email: [consult@jadestone-energy.com.au](mailto:consult@jadestone-energy.com.au)

Phone: 08 9486 6600



We have moved... our Perth office is now located at: L8, 1 William Street, Perth 6000, Western Australia.  
All other contact details remain the same.

## Appendix F

Table 1: Relevant persons' engagement log - Montara 1,2,3, Wellhead Abandonment EP

Relevant Stakeholders	Date	To/From	Engagement Logistics	Reference Number	Summary of content	Action undertaken/Status
<b>Commonwealth government department or agency</b>						
Australian Border Force (ABF)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Australian Fisheries Management Authority (AFMA)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A
	29 Aug 22	RECEIVED	How: Email	AFMA	Acknowledgement of receipt. No specific comment. Noted to consult directly through relevant fishing organisations.	Due to no change in the Operational Area that could have impact on fishers, no follow up consultation with fishers is proposed at this stage.
Australian Hydrographic Office (AHO)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A
	30 Aug 22	RECEIVED	How: Email	AHO	Acknowledgement of receipt.	Noted
Australian Maritime Safety Authority (AMSA)	29 Aug 22	SENT	How: Email	G1a	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird	N/A

					and produced water management, decommissioning and GHG). Feedback requested	
	29 Aug 22	RECEIVED	How: Email	AMSA	Acknowledgement of receipt. Initial advice provided on this project continues to apply.	Noted
Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Department of Agriculture, Fisheries and Forestry (DAFF) – Marine pests	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Department of Climate Change, Energy, the Environment and Water (DCCEEW)	9 Aug 22	SENT	How: Email	DCCEEW_1	Transmittal sent to DCCEEW formally withdrawing the Sea Dumping Permit Application – Abandonment Montara 1,2,3 and subsea wellheads	N/A
	10 Aug 22	RECEIVED	How: Email	DCCEEW_1	Acknowledgment of receipt of withdrawal. No further information required to action withdrawal.	No further action required
	6 Sept 22	SENT	How: Email	DCCEEW_2	Email sent to arrange meeting to discuss issues with bird management at Montara facility and potential permitting that may be required.	N/A
	6 Sept 22	RECEIVED	How: Email	DCCEEW_2	Email sent asking to send through information available to assess.	Jadestone to send presentation with relevant information
	7 Sept 22	SENT	How: Email	DCCEEW_2	Presentation sent.	N/A
	8 Sept 22	SENT	How: Email	DCCEEW_2	Link to presentation sent. Presentation attached to Sensitive Information Report	N/A
	13 Sept 22	RECEIVED	How: Email	DCCEEW_2	Confirmation that a permit under EPBC is not applicable.	Noted

	15 Sept 22	SENT	How: Email	DCCEEW_2	Acknowledgement of receipt. EP will state reporting in relation to bird management.	No further action required.
Department of Defence	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Department of Foreign Affairs and Trade (DFAT)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A
	29 Aug 22	RECEIVED	How: Email	DFAT	Acknowledgement of receipt and provision of new contact details for future correspondence.	Noted
Department of Industry, Science and Resources (DISR)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Director of National Parks (DNP), Parks Australia, part of Department of Climate Change, Energy, the Environment and Water (DCCEEW)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
GeoScience Australia	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A
	29 Aug 22	RECEIVED	How: Email	Geoscience	Acknowledgement of receipt	Noted

National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)	9 Aug 22	SENT	How: Email	NOPSEMA	Transmittal sent to NOPSEMA formally withdrawing the Montara 1,2,3 Wellhead Abandonment EP	No further action required
Hon Ed Husic MP – Minister for Industry and Science	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A
	29 Aug 22	RECEIVED	How: Email	Husic	Acknowledgement of receipt	Noted
Hon Madeleine King MP – Minister for Resources and Northern Australia	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A
	29 Aug 22	RECEIVED	How: Email	King	Acknowledgement of receipt	Noted
Hon Tanya Plibersek MP – Minister for the Environment and Water	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A
	29 Aug 22	RECEIVED	How: Email	Plibersek	Acknowledgement of receipt	Noted
Senator the Hon Murray Watt – Minister for Agriculture, Fisheries and Forestry	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A
	29 Aug 22	RECEIVED	How: Email	Watt	Acknowledgement of receipt	Noted
<b>WA State government department or agency</b>						
	29 Aug 22	SENT	How: Email	G1a	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP	N/A



Department of Biodiversity, Conservation and Attractions (DBCA)					and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	
	29 Aug 22	RECEIVED	How: Email	DBCA	Acknowledgement of receipt	Noted
Department of Jobs, Tourism, Science and Innovation	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Department of Mines, Industry Regulation and Safety (DMIRS)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Department of Primary Industry and Regional Development (DPIRD) (Fisheries Branch)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Department of Transport (DOT) (Marine Pollution)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A
	6 Sept 22	RECEIVED	How: Email	DoT	Acknowledgement of receipt. Provision of relevant guidance note details.	Noted
Department of Water and Environmental Regulation (DWER)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management,	N/A

					decommissioning and GHG). Feedback requested	
	29 Aug 22	RECEIVED	How: Email	DWER	Acknowledgement of receipt	Noted
<b>NT Government or Agency</b>						
Department of the Chief Minister	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Department of Environment, Parks and Water Security (DEPWS)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Department of Industry, Tourism and Trade (DITT) – Fisheries Division	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A
	29 Aug 22	RECEIVED	How: Email	DITT	Acknowledgement of receipt	Noted
Department of Infrastructure, Planning and Logistics (DIPL)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Northern Territory Environment Protection Authority (EPA)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A

	29 Aug 22	RECEIVED	How: Email	NT EPA	Acknowledgement of receipt	Noted
<b>Commercial fishers and fishing associations: Commonwealth</b>						
Australian Fisheries Trade Association (AFTA)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Australian Southern Bluefin Tuna Industry Association (ASBTIA)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Commonwealth Fisheries Association (CFA)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
<b>Commercial fishers and fishing associations: WA and NT</b>						
Northern Prawn Fishing Industry Pty Ltd	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Northern Territory Seafood Council (NTSC)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected

Pearl Producers Association (PPA)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Western Australian Fishing Industry Council (WAFIC)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A
	2 Sept 22	RECEIVED	How: Email	WAFIC	Acknowledgement of receipt	Noted
	22 July 22	Sent	How: Email	WAFIC_1	Additional consultation to discuss removal of wellheads. Email sent including meeting minutes. Further details in Assessment of Merit table.	N/A
	22 July 22	RECEIVED	How: Email	WAFIC_1	Email with suggested edits to minutes.	Minutes updated
	22 July 22	Sent	How: Email	WAFIC_1	Suggested edits incorporated. Minutes attached to Sensitive Information Report.	No further action required
<b>Recreational fishing</b>						
Recfishwest	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
<b>Associations</b>						
Australian Council of Prawn Fisheries	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management,	No further response expected

					decommissioning and GHG). Feedback requested	
Amateur Fisherman's Association of the NT (AFANT)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Northern Territory Guided Fishing Industry Association (NTGFIA)	29 Aug 22	SENT	How: Email	G1a	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
<b>Port Authorities</b>						
Darwin Port	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Kimberley Port Authority (Port of Broome)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
<b>Oil and Gas</b>						
Australian Petroleum Production and Exploration Association (APPEA)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected

INPEX	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Santos	29 Aug 22	SENT	How: Email	G1a	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
<b>Response Partners</b>						
Australian Marine Oil Spill Centre (AMOSC)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
<b>Research</b>						
Australian Institute of Marine Science (AIMS)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	No further response expected
Western Australian Marine Science Institute (WAMSI)	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird	No further response expected

					and produced water management, decommissioning and GHG). Feedback requested	
Western Australian Museum	29 Aug 22	SENT	How: Email	G1	Email sent to stakeholder providing update on Montara 1,2,3 Wellhead Abandonment EP and Montara Operations EP (including bird and produced water management, decommissioning and GHG). Feedback requested	N/A
	29 Aug 22	RECEIVED	How: Email	WA Museum	Acknowledgement of receipt	Noted

# Appendix G

**Table 1: Relevant persons' engagement log - current**

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
<b>Commonwealth government department or agency</b>						
Australian Communications & Media Authority (ACMA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	22-Feb-23	PLACED	How: Call	N/A	Called ACMA to confirm receipt of information package. Package not received.	Emailed through information package
	22-Feb-23	SENT	How: Email	ACMA	Email sent to ACMA with information package	Awaiting response
	22-Feb-23	RECEIVED	How: Email	ACMA	Acknowledgement of receipt.	N/A
	22-Feb-23	SENT	How: Email	ACMA	Email sent requesting direct contact details of subject expert email has been sent to	Awaiting response
	22-Feb-23	RECEIVED	How: Email	ACMA	Email providing link to relevant person contact details	Relevant contact details recorded. Awaiting response
	27-Feb-23	RECEIVED	How: Email	ACMA_2	Email advising Montara facility doesn't appear to be in vicinity of protection zone. Encourage Jadestone to contact owners of submarine cables in the vicinity	Correspondence still being processed. Jadestone will respond in March 2023
Australian Fisheries Management Authority (AFMA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	30-Jan-23	RECEIVED	How: Email	AFMA	Acknowledgement of receipt. Noted to consult directly through relevant fishing organisations.	Refer to Assessment of Merit table – this has been undertaken as part of standard consultation approach
	21-Feb-23	SENT	How: Email	AFMA	Acknowledgement of guidance	No further action
Australian Hydrographic Office (AHO)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	20-Dec-22	RECEIVED	How: Email	AHO	Acknowledgement. Data will be registered and charts updated	Noted
	21-Feb-23	SENT	How: Email	AHO	Acknowledgement of email	No further action
Australian Maritime Safety Authority (AMSA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	21-Dec-22	RECEIVED	How: Email	AMSA	Notification requirements - refer to assessment of merit table for detail	Response assessed and EP updated to include notifications.



Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	21-Feb-23	SENT	How: Email	AMSA	Acknowledgement of email	No further action
Clean Energy Regulator	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	14-Feb-23	RECEIVED	How: Email	CER	Email advising have passed enquiry to appropriate section for a response	Awaiting response
	22-Feb-23	PLACED	How: Call	N/A	Left a message asking CER to call Jadestone to confirm if consultation package was received	Awaiting return phone call
	22-Feb-23	RECEIVED	How: Call	N/A	CER called back and provided email that may be more appropriate to send information package to	Email recorded
	23-Feb-23	RECEIVED	How: Email	CER_2	Email advising they have spoken with appropriate section who will be in contact ASAP	Awaiting response
	24-Feb-23	RECEIVED	How: Email	CER_3	Email advising they have received our request and will respond by 3/03/2023	Awaiting response
Department of Agriculture, Fisheries & Forestry (DAFF)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How: Email	DAFF_AutoResponse	Auto Response email received	N/A
	9-Feb-23	SENT	How: Email	G3	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
	9-Feb-23	RECEIVED	How: Email	DAFF_AutoResponse_2	Auto Response email received	Awaiting response
	9-Feb-23	RECEIVED	How: Email	DAFF	Provided biofouling management requirement links	Noted. Refer to Assessment of Merit Table for where biofouling requirements have been included in the EP
	28-Feb-23	SENT	How: Email	DAFF	Acknowledgment of email and confirming that biofouling management is covered under Jadestone's Marine Biosecurity Manual	No further action
Department of Defence (DOD)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	31-Jan-23	RECEIVED	How: Email	DOD	Acknowledgement of receipt and confirmation that activity area is outside of any Defence Training Areas and restricted airspace. Advised of risk of UXOs. Please provide continued liaison with AHO for Notice to Mariners	Noted. EP updated to include notifications
	21-Feb-23	SENT	How: Email	DOD	Acknowledgement of email	No further action
Department of Foreign Affairs and Trade (DFAT)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	N/A
	8-Feb-23	RECEIVED	How: Email	DFAT_1	Provided alternative contact details	Noted. Follow up email sent to updated contact details
	9-Feb-23	SENT	How: Email	DFAT_2	Reminder- email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	20-Feb-23	RECEIVED	How: Email	DFAT_2	Acknowledgement of receipt. DFAT has NIL comments.	Noted. No further action
	21-Feb-23	SENT	How: Email	DFAT_2	Acknowledgement of email	No further action
Department of Industry, Science & Resources (DISR)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
	22-Feb-23	PLACED	How: Call	N/A	Called DISR to confirm receipt of information package. More appropriate email address provided	Relevant contact details recorded and emailed information package
	22-Feb-23	SENT	How: Email	DISR	Email sent to updated email address with information package	Awaiting response
Director of National Parks (DNP), Parks Australia, part of the Department of Climate Change, Energy, the Environment and Water (DCCEEW)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	4-Jan-23	RECEIVED	How: Email	DNP	Acknowledgement of receipt and confirmation that no objections or claims at this time. Provision of relevant guidance note details and notification requirements	Refer to Assessment of Merit table. EP updated to include notifications.
	21-Feb-23	SENT	How: Email	DNP	Acknowledgement of email	No further action
Maritime Border Command (MBC), part of Australian Border Force (ABF), part of the Department of Home Affairs (DHA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
National Offshore Petroleum Titles Administrator (NOPTA)	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	9-Feb-23	RECEIVED	How: Email	NOPTA	Email advising NIL response from NOPTA as they do not provide comment on EPs.	Noted
	21-Feb-23	SENT	How: Email	NOPTA	Acknowledgement of email	No further action
Office of Northern Australia (ONA), within the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDC)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	22-Feb-23	PLACED	How: Call	N/A	Called ONA to confirm receipt of information package. Transferred to another line, no one answered	Try to call again
<b>NT Government department or agency</b>						
Aboriginal Areas Protection Authority (AAPA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	23-Feb-23	PLACED	How: Call	N/A	Called AAPA to confirm receipt of information package. Package received and passed on to appropriate person to respond. Following up response	Awaiting response
Department of Chief Minister and Cabinet (NT)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How: Email	CM_Bounce	Email bounced	Look for alternative email. Follow up email sent to updated contact details
	9-Feb-23	SENT	How: Email	CM	Reminder- email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
	9-Feb-23	RECEIVED	How: Email	CM_AutoResponse	Automatic email response	Awaiting response
Department of Environment, Parks and Water Security (DEPWS)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
	23-Feb-23	PLACED	How: Call	N/A	Called DEPWS to confirm receipt of information package. Package received and now escalated to appropriate person to respond	Awaiting response
	23-Feb-23	RECEIVED	How: Email	DEPWS	Email advising no comment from DEPWS as activity falls outside their jurisdiction	Noted
	23-Feb-23	SENT	How: Email	DEPWS	Acknowledgement of email	No further action
Department of Industry Tourism and Trade (DITT)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	9-Feb-23	RECEIVED	How: Email	DITT	Email advising no comment from DITT as activity falls outside their jurisdiction	Noted
	21-Feb-23	SENT	How: Email	DITT	Acknowledgement of email	No further action

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
Marine Safety Branch - Department of Transport (DOT) (NT), part of the Department of Infrastructure, Planning and Logistics (DIPL)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Northern Territory Environment Protection Authority (NTEPA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Northern Territory Gas Taskforce	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Northern Territory Regional Harbourmaster (part of DIPL)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How: Email	RHM_AutoResponse	Automatic email response	N/A
	9-Feb-23	SENT	How: Email	G3	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
	22-Feb-23	PLACED	How: Call	N/A	Called RHM to confirm receipt of information package. Package received. Will review and respond	Awaiting response
	23-Feb-23	SENT	How: Email	RHM	Email sent to RHM with information package	Awaiting response. Read receipt received
	27-Feb-23	RECEIVED	How :Email	RHM	Email notes vessel collision doesn't mention compliance with International Regulations for Prevention of Collisions at Sea	Correspondence still being processed. Jadestone will respond in March 2023
<b>WA government department or agency</b>						

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
Department of Biodiversity, Conservation and Attractions (DBCA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How: Email	DBCA_AutoResponse	Auto Response email received	N/A
	6-Jan-23	RECEIVED	How: Email	DBCA	Email advising no comment from DBCA	Noted
	21-Feb-23	SENT	How: Email	DBCA	Acknowledgement of email	No further action
Department of Mines, Industry Regulation and Safety (DMIRS)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Department of Planning, Lands & Heritage (DPLH)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	13-Feb-23	RECEIVED	How: Email	DPLH	Email advising no comment from DPLH	Noted
	21-Feb-23	SENT	How: Email	DPHL	Acknowledgement of email	No further action
Department of Primary Industries and Regional Development (DPIRD)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Department of Transport (DOT) (WA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	22-Dec-22	RECEIVED	How: Email	WA DOT	Acknowledgement of receipt. Provision of relevant guidance note details.	Noted. No further action

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
Department of Water & Environmental Regulation (DWER)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How: Email	DWER_AutoResponse	Auto Response email received	N/A
	9-Feb-23	SENT	How: Email	G3	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	9-Feb-23	RECEIVED	How: Email	DWER_AutoResponse_2	Auto Response email received	Awaiting response
	14-Feb-23	RECEIVED	How: Email	DWER	Email advising no comment from DWER and suggested DMIRS might be more appropriate department to provide comment	Noted. DMIRS considered relevant person and already sent information package
	21-Feb-23	SENT	How: Email	DWER	Acknowledgement of email	No further action
<b>Local Government Authorities</b>						
Belyuen Community Government Council	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
City of Darwin	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How:Email	COD_AutoResponse	Automatic email response	N/A
	9-Feb-23	SENT	How: Email	G3	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
	9-Feb-23	RECEIVED	How: Email	COD_AutoResponse_2	Auto Response email received	Awaiting response
	22-Feb-23	PLACED	How: Call	N/A	Called COD to confirm receipt of information package. Package received and escalated to Executive Manager for Environment and Waste Services for comment	Awaiting response from Executive Manager for Environment and Waste Services for comment
	27-Feb-23	RECEIVED	How:Email	COD	Email received asking to be notified in event of a spill and asking for consultation in advance of waste disposal associated with wellhead removal	Correspondence still being processed. Jadestone will respond in March 2023

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
City of Palmerston	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	23-Feb-23	PLACED	How: Call	N/A	Called City of Palmerston to confirm receipt of information package. More appropriate email address provided	Relevant contact details recorded and emailed information package
	23-Feb-23	SENT	How: Email	Palmerston	Email sent to updated email address with information package	Awaiting response
	23-Feb-23	RECEIVED	How: Email	Palmerston_AutoResponse	Auto Response email received	Awaiting response
Shire of Derby / West Kimberley	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
	23-Feb-23	PLACED	How: Call	N/A	Called Shire of Derby to confirm receipt of information package. Package received and now escalated to appropriate person to respond	Awaiting response
	23-Feb-23	RECEIVED	How: Email	ShireofDerby	Shire has limited capacity to deal with any spill off its coastline	Correspondence still being processed. Jadestone will respond in March 2023
Shire of Wyndham / East Kimberley	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
	23-Feb-23	PLACED	How: Call	N/A	Called Shire of Wyndham to confirm receipt of information package. Package received and now escalated to appropriate person to respond	Awaiting response



Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
Tiwi Islands Regional Council	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Victoria Daly Regional Council	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
	23-Feb-23	PLACED	How: Call	N/A	Called Vic Daly to confirm receipt of information package. Package received and now escalated to appropriate person to respond	Awaiting response
	23-Feb-23	RECEIVED	How: Email	VicDaly	Email received escalating information package and asking for comment	Awaiting response
	23-Feb-23	RECEIVED	How: Email	VicDaly	Acknowledgement of receipt. VicDalyT has no comment as outside their areas of management	Noted
	27-Feb-23	SENT	How: Email	VicDaly	Acknowledgement of email	No further action
Wagait Shire Council	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
West Daly Regional Council	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
<b>Oil and Gas Industry</b>						

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
Australian Maritime Oil Spill Centre (AMOSC)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
Carnarvon Energy	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
	14-Feb-23	RECEIVED	How: Email	Carnarvon	Email advising Carnarvon have no comments and do not require further information	Noted
	21-Feb-23	SENT	How: Email	Carnarvon	Acknowledgement of email	No further action
Eni Australia	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Inpex	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Melbana Energy	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
Oil Spill Response Limited (OSRL)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	13-Feb-23	RECEIVED	How: Email	OSRL	Email advising no comments from OSRL	Noted
	21-Feb-23	SENT	How: Email	OSRL	Acknowledgement of email	No further action
Santos	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Shell	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	14-Feb-23	RECEIVED	How: Email	Shell	Email advising no further information required	Noted
	21-Feb-23	SENT	How: Email	Shell	Acknowledgement of email	No further action
<b>NT Commercial fishers and fishing associations</b>						
Amateur Fishermens Association of the Northern Territory (AFANT)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How:Email	AFANT_AutoResponse	Automatic email response	N/A
	9-Feb-23	SENT	How: Email	G3	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
Coastal Line Fishery (NT)	9/01/2023	SENT	How: Mail	Fish	Mail sent to stakeholder providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
Demersal Fishery (NT)	9/01/2023	SENT	How: Mail	Fish	Mail sent to stakeholder providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
Kimberley Crab Fishery	9/01/2023	SENT	How: Mail	Fish	Mail sent to stakeholder providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
Kimberley Gillnet & Barramundi Fishery	9/01/2023	SENT	How: Mail	Fish	Mail sent to stakeholder providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
Kimberley Prawn Fishery	9/01/2023	SENT	How: Mail	Fish	Mail sent to stakeholder providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
Northern Prawn Fishing Industry Pty Ltd	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	N/A
	8-Feb-23	RECEIVED	How:Email	NPF	Acknowledgement of receipt. Will review and respond in due time	Noted. Awaiting response
	13-Feb-23	RECEIVED	How:Email	NPF_2	Reviewed activities and no implications for the NPF.	Noted
	21-Feb-23	SENT	How: Email	NPF_2	Email sent asking NPF to consider the EMBA	Awaiting response
	21-Feb-23	RECEIVED	How:Email	NPF_2	Email sent asking for EMBA details	Jadestone looking into request
	28-Feb-23	SENT	How: Email	NPF_2	Email sent advising Jadestone are looking into their information request	Jadestone are currently gathering information to send to NPF
Northern Territory Guided Fishing Industry Association (NTGFIA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	N/A

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
Northern Territory Seafood Council (NTSC)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	N/A
Offshore Net & Line Fishery (NT)	9/01/2023	SENT	How: Mail	Fish	Mail sent to stakeholder providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
Spanish Mackerel Fishery (NT)	9/01/2023	SENT	How: Mail	Fish	Mail sent to stakeholder providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
<b>WA Commercial fishers and fishing associations</b>						
Pearl Producers Association (PPA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How: Email	PPA	Provided alternative contact details	Noted. Follow up email sent to updated contact details
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Western Australian Fishing Industry Council (WAFIC)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	9-Feb-23	SENT	How: Email	WAFIC	Email sent asking if WAFIC can undertake review of commercial fishing licence holders as part of their fee for service to help determine which licence holders may undertake fishing effort within the EMBA and require further consultation	N/A

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	13-Feb-23	RECEIVED	How: Email	WAFIC	WAFIC are unable to review or comment on list and do not support consultation with all licence holders who intersect a project EMBA, rather will only consult with those directly impacted by planned activities within a projects operational area.	Noted.
<b>Commonwealth Commercial fishers and fishing associations</b>						
Australian Southern Bluefin Tuna Industry Association (ASBTIA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	17-Feb-23	SENT	How: Email	ASBTIA	Email seeking advice in relation to whether there is fishing effort off of NW WA coast and the Timor Sea, and if there is which licence holders undertake that effort	Awaiting response
	21-Feb-23	PLACED	How: Call	N/A	Called to follow up email	No response. Call again
	23-Feb-23	PLACED	How: Call	N/A	Called to follow up email	No response.
Commonwealth Fisheries Association (CFA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	9-Feb-23	RECEIVED	How:Email	CFA	CFA is not resourced to provide feedback, Suggested directing enquiries to associations that represent the directly affected fisheries/fishers	Noted. The suggested associations representing the fisheries/fishers have been engaged. No further action
Seafood Industry Australia (SIA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How:Email	SIA_AutoResponse	Automatic email response	N/A
	9-Feb-23	SENT	How: Email	G3	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
<b>Recreational fishing associations</b>						

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
Recfishwest (WA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	23-Feb-23	PLACED	How: Call	N/A	Called Recfishwest to confirm receipt of information package. More appropriate email address provided	Relevant contact details recorded and emailed information package
	23-Feb-23	SENT	How: Email	Recfishwest	Email sent to updated email address with information package for comment	Awaiting response
	23-Feb-23	RECEIVED	How:Email	Recfishwest	Email advising Recfishwest has no concerns based on the information provided.	Noted
	23-Feb-23	SENT	How: Email	Recfishwest	Acknowledgement of email	No further action
<b>First Nations peoples</b>						
Kimberley Land Council (KLC)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Northern Australian Indigenous Land & Sea Management Alliance (NAISMA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Northern Land Council (NLC)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
Tiwi Land Council (TLC)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How:Email	TLC_AutoResponse	Automatic email response	N/A
	9-Feb-23	SENT	How: Email	G3	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
<b>Port Authorities</b>						
Darwin Port	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
	23-Feb-23	PLACED	How: Call	N/A	Called Darwin Port to confirm receipt of information package.No answer	Call again
Kimberley Ports Authority	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	23-Feb-23	PLACED	How: Call	N/A	Called Kimberley Port Authority to confirm receipt of information package. Package received, now passed onto appropriate person and they will call Jadestone	Awaiting return phone call
Pilbara Ports Authority	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response



Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	23-Feb-23	PLACED	How: Call	N/A	Called Pilbara Port Authority to confirm receipt of information package. Unsure if package received, confirming and will have appropriate person call Jadestone	Awaiting return phone call
Wyndham Port WA Cambridge Gulf Ltd	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How:Email	CGLTD_AutoResponse	Automatic email response	N/A
	31-Jan-23	RECEIVED	How:Email	CGLTD	Acknowledged receipt and do not see any issues to their shipping operations as a result of Montara Operations. Offered logistical support if required.	Noted
	21-Feb-23	SENT	How: Email	CGLTD	Acknowledgement of email	No further action
<b>Environmental Conservation Groups</b>						
Conservation Council of Western Australia (CCWA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Environment Centre Northern Territory (ECNT)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
<b>Tourism and Business Associations/ Tour Operators</b>						
Absolute Ocean Charters	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How:Email	AOC_AutoResponse	Automatic email response	N/A

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	9-Feb-23	SENT	How: Email	G3	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	9-Feb-23	RECEIVED	How:Email	AOC_AutoResponse_2	Automatic email response	Awaiting response
Anglers Choice Fishing Safaris	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
APT Kimberley Coast Cruises	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	8-Feb-23	RECEIVED	How:Email	APT_AutoResponse	Automatic email response	Awaiting response
Arafura Bluewater Charters	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Archipelago Adventures	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Australia's North West	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	19-Dec-22	RECEIVED	How:Email	ANW_AutoResponse	Automatic email response	N/A
	9-Feb-23	SENT	How: Email	G3	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Broome Tours	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Broome Whale Watching	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Cannon Charters	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Clearwater Island Lodge	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Coral Expeditions	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Darwin Harbour Fishing Charters	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Dundee Beach Fishing Charters	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Equinox Fishing Charters	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
Fish Darwin	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
HeliSpirit Luxury Kimberley Helicopter Safari	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Kimberley Cruise Centre	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Kimberley Expeditions	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Kimberley Pearl Cruises	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Kimberley Quest	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Kuri Bay Sport Fishing & Adventures	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Lady M Luxury Cruises	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Monsoon Aquatics	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Ocean Dream Charters	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Offshore Boats Fishing Charters	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
One Tide Charters	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Oolin Sunday Island Cultural Tours	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Ponant Luxury Expeditions	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
Red Devil Fishing Charters	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	8-Feb-23	RECEIVED	How:Email	Red Devil	Acknowledgement of receipt. Asked Jadestone to call when they get back from overseas	Jadestone to call Red Devil Charters
	28-Feb-23	PLACED	How: Call	N/A	Called Red Devil to see if they are available to meet Jadestone in Darwin in March	Jadestone to organise meeting with Red Devil in Darwin once travel dates confirmed
Seafarms Group Ltd	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
Seaestar Boat Charters	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	8-Feb-23	RECEIVED	How:Email	Seaestar_AutoResponse	Automatic email response	N/A
Silversea Cruises	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	23-Feb-23	PLACED	How: Call	N/A	Called Silversea to confirm receipt of information package. Unsure if package received. Asked to send through again	Emailed through information package
	23-Feb-23	SENT	How: Email	Silversea	Email sent to Silversea with information package	Awaiting response
The Great Escape Charter Company	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
Tiwi Island Adventures	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Tourism Top End	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response



Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response. Read receipt received
True North	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Willie Pearl Lugger Cruises	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Yknot Fishing Charters	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
<b>eNGOs</b>						
Broome Visitor Centre	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	8-Feb-23	RECEIVED	How: Email	BVC	Email asking Jadestone to contact BVC to discuss further what require from BVC	Jadestone to contact BVC
	21-Feb-23	SENT	How: Email	BVC	Email sent asking if BVC would be available to meet Jadestone in Broome on 8 March to discuss further	N/A

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
	22-Feb-23	RECEIVED	How: Email	BVC	BVC happy to discuss further once travel booked	Jadestone to organise meeting with BVC in Broome once travel dates confirmed
Environs Kimberley	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Greenpeace	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	19-Dec-22	RECEIVED	How: Email	GP_bounce	Email bounced	Look for alternative email
	19-Dec-22	RECEIVED	How:Email	GP_AutoResponse	Automatic email response	N/A
	9-Feb-23	SENT	How: Email	G3	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	9-Feb-23	RECEIVED	How: Email	GP_AutoResponse_2	Auto Response email received	Awaiting response
	24-Feb-23	RECEIVED	How: Email	Greenpeace	Email from Greenpeace with attached letter requesting additional information	Information request still being processed. Jadestone will respond in March 2023
Save the Kimberley	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
The Wilderness Society	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	13-Feb-23	RECEIVED	How: Email	TWS	Acknowledgement of receipt. Will make comment by 21.02.2023	Awaiting response

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
World Wildlife Fund	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
<b>Other Associations</b>						
Australian Council of Prawn Fisheries	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Marine Tourism Association of Western Australia (MTWA)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	23-Feb-23	PLACED	How: Call	N/A	Called MTWA to confirm receipt of information package. Package received. Will review and respond.	Awaiting response
Northern Territory Chamber of Commerce (NTCC)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	23-Feb-23	PLACED	How: Call	N/A	Called NTCA to confirm receipt of information package. Unsure if package received. Asked to send through again	Emailed through information package
	23-Feb-23	SENT	How: Email	NTCC	Email sent to NTCA with information package	Awaiting response. Read receipt received
	27-Feb-23	RECEIVED	How: Email	NTCC	Email advising Chamber of Commerce don't have much input	Noted. No further action

Relevant person	Date	To/from	Engagement logistics	Reference Number	Summary of content	Action undertaken/Status
Thamarrurr Development Corporation (TDC), including the Thamarrurr Rangers	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
<b>Academic and Research Organisations</b>						
Australian Institute of Marine Science (AIMS)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
Australian Marine Conservation Society (AMCS)	19-Dec-22	SENT	How: Email	G1	Email sent to stakeholder with attached information package providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required	Awaiting response
	8-Feb-23	SENT	How: Email	G2	Reminder- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations	Awaiting response
	23-Feb-23	PLACED	How: Call	N/A	Called AMCS to confirm receipt of information package. Unsure if package received, confirming and will have appropriate person contact Jadestone	Awaiting response

**Jadestone**  
Energy



Invitation for Consultation  
Montara Field Operations  
and Future Activities

# Invitation for Consultation

***Jadestone Energy (Jadestone) is the operator of the existing Montara Field in the Timor Sea. Jadestone is preparing an Operations Environment Plan (EP) for assessment by the Commonwealth regulatory authority, the National Offshore Petroleum Regulatory Authority (NOPSEMA).***

***The Operations EP is for ongoing production and maintenance at the Montara facility.***

***Jadestone is also seeking comment on an activity that will be subject to a future EP, for the removal of unused infrastructure (tentatively planned for 2024-2029).***

***Jadestone invites comments for its consideration during the period of preparation of each EP.***



## Who is Jadestone Energy?

Jadestone is a leading upstream oil and gas company in the Asia Pacific region, with a focus on production and near-term development assets. The company is listed on the Alternative Investment Market of the London Stock Exchange (JSE). Contact details for Jadestone's Australian Operations are provided at the end of this document.

## What is an Environment Plan?

The purpose of an Environment Plan (EP) is to identify the proposed petroleum activity's impacts on and risks to the environment. The EP also sets out measures to reduce identified environmental impacts, potential risks due to the activity, and describe how and to what level of performance those measures will be implemented throughout the activity, including in the unlikely event of a significant unplanned event, e.g., hydrocarbon spill.

NOPSEMA requires that the existing EP in place for Montara operations must be revised and resubmitted every five years, or sooner if required.

The existing Montara EP is now due its five-year revision.

Therefore, the Montara revision EP is currently in preparation, covering activities associated with production; oil loading to a third-party tanker; the

inspection maintenance and repair of the wellhead platform (WHP) and the floating production, storage and offtake vessel (FPSO); wells, including workovers; associated subsea infrastructure; and non-routine / unplanned activities and events should they arise.

## Activities that will be subject to the future EP

Wellhead Removals – for the removal of three wellheads that are no longer in use. Jadestone plans to remove these wellheads within the 2024-2029 period and will prepare an EP describing the removal activity.

## Why are you being engaged?

Jadestone has identified that you or your organisation is a 'relevant person' under the Offshore Petroleum and Greenhouse Gas (Environment) Regulations 2009 because of your functions, activities, or interests within the Environment that Might Be Affected (EMBA) for Montara, defined as the area that might be affected in the unlikely event of a significant unplanned event, e.g., hydrocarbon spill.

## What do we do with information provided?

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In line with Regulation 9(8) of the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Environment Regulations) 2009, correspondence between Jadestone and you or your organisation must be provided to NOPSEMA. All comments are compiled into a report and are published in the publicly available EP, with names and contact details redacted.

There is, however, the opportunity for you to request that your correspondence not be published. That is, whilst the correspondence is still required to be provided to NOPSEMA, it will be provided in a separate report that is for NOPSEMA only and is not published.

Please notify Jadestone of any correspondence that we receive from you or your organisation that you wish to be confidential. That correspondence will be provided to NOPSEMA in a separate report, and not published on NOPSEMA's website.

All comments received by Jadestone will be carefully assessed to understand the potential impacts of the activity upon you or your organisation as a relevant person, that is your functions, activities, or interests. Jadestone's assessment will be provided to you and documented in the EP.

## How do I find out more?

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Further information on Jadestone's Montara facility is available on our website: <https://www.jadestone-energy.com/assets/australia-portfolio/montara/>

Following NOPSEMA's completion of its pre-assessment checks of the EP it will be published, minus any confidential material, on the NOPSEMA website.

[https://info.nopsema.gov.au/offshore\\_projects/20/show\\_public](https://info.nopsema.gov.au/offshore_projects/20/show_public)

## What do Jadestone want to know?

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Jadestone is committed to ongoing dialogue with all its stakeholders and welcomes your or your organisation's comments at any time.

Please let us know if you:

- have any comments on the activity and the potential impacts on you or your organisation's interests
- require any further information
- have any preference on how we contact you in the future
- need anything further from us to assist you with comments you might wish to make.

Could you also help us make an informed decision about your requirement for ongoing consultation by letting us know if you do not wish to receive further updates for activities associated with the Montara field.

## What Happens next?

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Jadestone will make reasonable efforts to consult with all parties that have been identified as potentially relevant persons.

Please be aware that it is a requirement of NOPSEMA that Jadestone documents no responses to this Invitation for Consultation, and as a consequence, if no response is received, Jadestone may make follow-up contact with you or your organisation several times to seek a response.

## Location

The Montara development is in the Timor Sea, approximately 690 km west of Darwin (Figure 1). The permit areas AC/L7 and AC/L8 are in Australian waters. All activities in these permit areas are in ~72–90 m water depth. Location details are shown on Figure 1, including key features in the area. The distance to Australian Marine Parks is summarised in Table 1.

Table 1: Distance to Australian Marine Parks (AMPs)

Australian Marine Park	Minimum distance from Wellheads
Ashmore AMP	131 km
Cartier AMP	90 km
Kimberley AMP	108 km

The Montara facility has been producing since 2010, with the required restricted zone in place. Petroleum Safety Zones (PSZ) extend 500 m around the following Montara infrastructure:

- FPSO submerged turret production
- Well head platform
- Swallow 1 subsea wellhead and Swift manifold (combined)
- Swift North 1 subsea wellhead
- Swift 2 subsea wellhead
- Skua 10 and Skua 11 subsea wellhead (combined).

Pursuant to Section 616 of the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGGS Act) all vessels, other than those under the control of Jadestone or authorised by Jadestone, are prohibited from entering or being present in the PSZ.

A cautionary zone of 2.5 NM radius is maintained around the WHP, FPSO and subsea structures including the pipelines. This information has been notated on Admiralty Charts covering the region (#314), and although vessels are requested to avoid navigating, anchoring and fishing, it is not an exclusion zone.

All planned activities will be contained within the Operational Areas, and future activities such as wellhead removal will be within defined Operational Areas in permit areas AC/L7 and AC/L8).

In the unlikely event of a significant unplanned event, e.g., hydrocarbon spill, the values in the EMBA (habitats and locations), having been identified in the EP, will be prioritised for prompt protection activities.



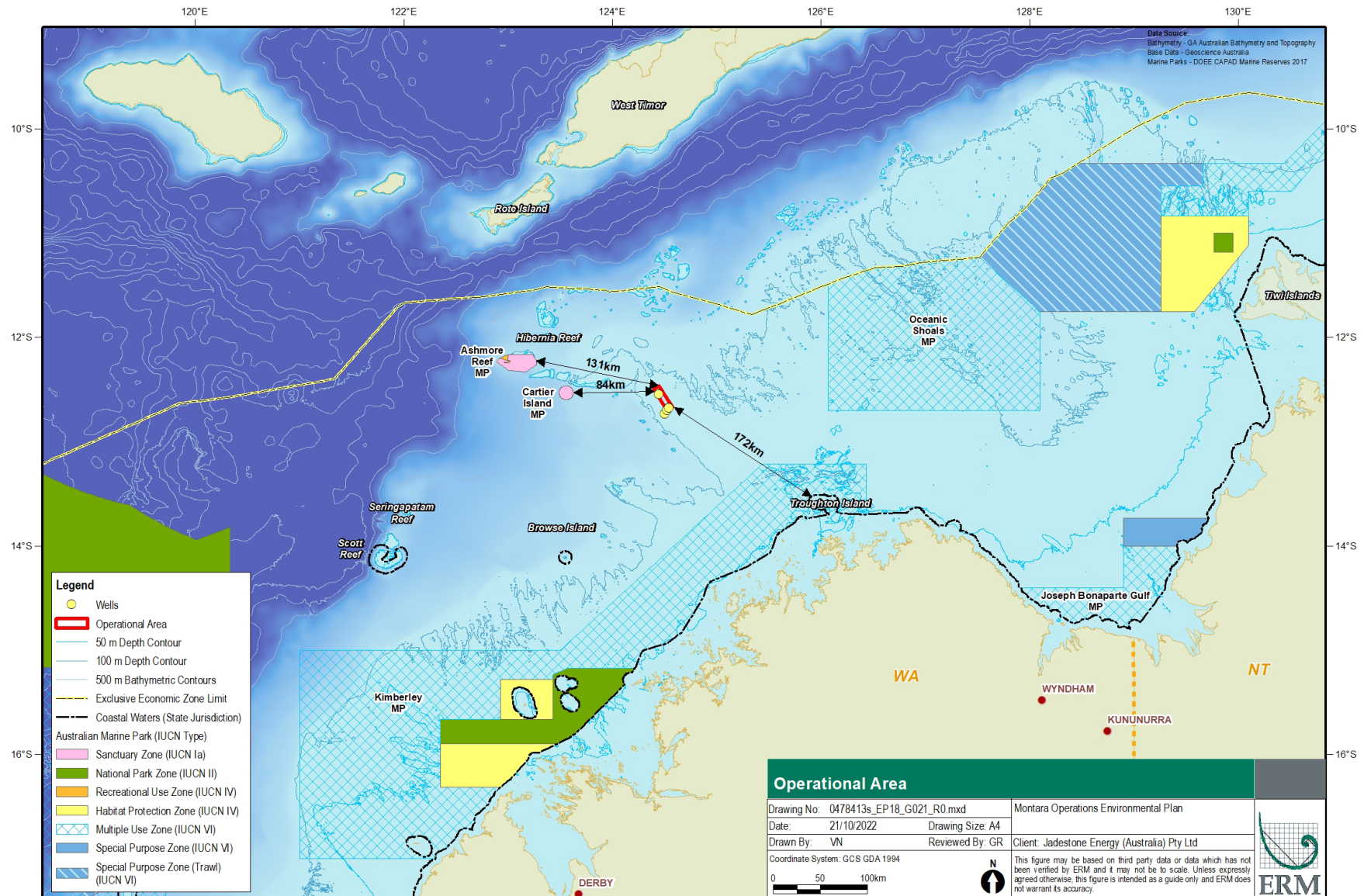


FIGURE 1 – LOCATION MAP

## Potential Risks and Management

A summary of potential risks to relevant persons who may have functions, activities or interests within the EMBA, that are common to all planned activities, is provided below. For each risk the associated management measures are summarised in Table 1.

**TABLE 1: POTENTIAL RISKS AND MITIGATION/MANAGEMENT MEASURES COMMON TO BOTH ENVIRONMENT PLANS**

Potential Risks	Mitigation and /or Management Measures
Light Emissions	<ul style="list-style-type: none"> <li>- Potential impacts from lighting are assessed as occurring within 20 km of a vessel or facility based on the National Light Pollution Guidelines for Wildlife (Commonwealth of Australia 2019)</li> <li>- Facility and vessel navigation lights are compliant with the Navigation Act 2012.</li> </ul>
Noise Emissions	<ul style="list-style-type: none"> <li>- Vessels and helicopters comply with relevant parts of Environment Protection and Biodiversity Conservation (EPBC) Regulation (2000) Part 8</li> <li>- Vessel and machinery are maintained in accordance with Flag State certification requirements.</li> <li>- All engines, compressors and machinery on the WHP and FPSO are maintained via a maintenance management system</li> </ul>
Atmospheric Emissions	<ul style="list-style-type: none"> <li>- Flag State Certificate and/or International Air Pollution Prevention (IAPP) certifies measures are in place to manage air emissions</li> <li>- All engines, compressors and machinery on the WHP and FPSO are maintained via a maintenance management system</li> </ul>
Operational discharges	<ul style="list-style-type: none"> <li>- Emissions and discharges of liquid waste to sea are in accordance with legislative requirements, the impact and risk assessment process indicates that discharges will not result in significant effects to marine fauna</li> <li>- Waste Management Plan</li> </ul>
Physical Presences	<ul style="list-style-type: none"> <li>- A pre-existing 500 m restricted zone is in place around the infrastructure and will remain in place for the duration of operations under the proposed EPs</li> <li>- Marine notifications will be made to relevant stakeholders, describing the location of the activity and a 500 m petroleum safety zone is present to prevent the risk of collisions and marked on charts</li> <li>- Commercial fishers are permitted to enter the wider 3Nm cautionary zone and fish, transit or anchor for the duration of operations under the proposed EP, but not the 500m exclusion zone, as long as it is safe to do so</li> <li>- Consultation is undertaken with all relevant persons</li> <li>- Plans are in place for any future decommissioning including inspection and maintenance of all infrastructure</li> <li>- Implementation of the Montara Bird Management Plan to ensure that birds are managed and monitored on the FPSO and WHP to prevent health and safety issues with personnel</li> </ul>
Seabed Disturbance	<ul style="list-style-type: none"> <li>- Surveys of seabed undertaken prior to integrity, maintenance or repair work</li> <li>- Designated anchoring area as marked on AHS charts</li> <li>- Seabed disturbance limited to planned activities and defined locations</li> </ul>

In addition to the risks outlined in Table 1, the risk of produced water discharge is specific to the Montara Operations EP activities (Table 2).

**TABLE 2: POTENTIAL RISKS AND MITIGATION/MANAGEMENT MEASURES ASSOCIATED ONLY WITH MONTARA OPERATIONS EP**

Potential Risks	Mitigation and /or Management Measures
Produced water discharges	<ul style="list-style-type: none"> <li>- Beyond temporary perturbation to water quality, no environmental impacts due to the discharge of produced water are expected</li> <li>- Produced water discharges are monitored and recorded with adaptive management processes in place if significant changes are identified</li> </ul>

Additional risks that are associated with events that are not expected to occur during normal activities are outlined in Table 3.

**TABLE 3: POTENTIAL RISKS AND MITIGATION/MANAGEMENT MEASURES ASSOCIATED ONLY WITH UNPLANNED ACTIVITIES**

Potential Risks	Mitigation and /or Management Measures
Introduced Marine Species (IMS)	<ul style="list-style-type: none"> <li>- IMS Management will meet legal requirements and reduce risks to As Low As Reasonably Practicable (ALARP) and Acceptable levels.</li> <li>- Vessels will be required to adhere to ballast water management, quarantine and biofouling requirements if required</li> </ul>
Interaction with fauna	<ul style="list-style-type: none"> <li>- Vessels operating within the restricted zone must not exceed a speed of five (5) knots</li> <li>- Induction includes information on speed limits and requirements for interacting with marine fauna</li> </ul>
Unplanned discharges	<ul style="list-style-type: none"> <li>- No release of non-hazardous / hazardous solid wastes or non-hydrocarbon hazardous liquids to the marine environment</li> <li>- Limitations of flaring volumes</li> <li>- Integrity and maintenance requirements maintained</li> <li>- Dropped object prevention</li> <li>- Waste management plan implemented, and details included in induction materials</li> <li>- Competent and trained personnel are inducted and have appropriate qualifications</li> <li>- Spill kits available and incident response plans in place</li> </ul>
Vessel collision	<ul style="list-style-type: none"> <li>- Marine notifications will be made to relevant stakeholders, describing the location of the activity and a 500 m petroleum safety zone is present to prevent the risk of collisions</li> <li>- Vessels operating within the restricted zone must not exceed a speed of five (5) knots</li> <li>- Navigation lights installed and checked</li> </ul>
Hydrocarbon release (not applicable during wellhead removal activity)	<ul style="list-style-type: none"> <li>- NOPSEMA accepted Oil Pollution Emergency Plan (OPEP) and well operations management plan (WOMP)</li> <li>- Procedures in place on WHP and FPSO to prevent hydrocarbon release to sea during operations</li> <li>- Maintenance and integrity checks and inspections</li> <li>- Appropriate vessel spill response plans, equipment and materials will be in place and maintained</li> <li>- Appropriate refuelling procedures and equipment will be used to prevent spills to the marine environment</li> </ul>

### Providing Feedback

If you would like to comment on the proposed activities outlined in this fact sheet or would like additional information, please contact Jadestone before 31 January 2023.

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Phone: 08 9486 6600

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Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter		Scenario Result		
							Surface (Worst case scenario)	Subsea (Scenario 8)	
Ashmore Reef/Cartier Island (including Ashmore Reef and Cartier Island and surrounding Commonwealth waters Ashmore Reef AMP Cartier Island AMP)	<ul style="list-style-type: none"> <li>Ashmore is an atoll-like structure with three low vegetated islands, sandbanks, lagoon areas, and surrounding reef largest of only three emergent oceanic reefs present in the north-eastern Indian Ocean. Only oceanic reef in the region with vegetated islands.</li> <li>Cartier Island includes an unvegetated sand island (Cartier Island), mature reef flat, a small, submerged pinnacle (Wave Governor Bank), and two shallow pools to the north-east of the island.</li> <li>Encompasses ecosystems, habitats and communities associated with the North-West Shelf, Timor Province, and emergent oceanic reefs. These locations are important biological stepping stones facilitating transport of biological material to the reef systems along the WA coast and Subject to the Memorandum of Understanding between Australia and Indonesia (MoU Box).</li> </ul>				Probability of contact by floating oil at $\geq 10\text{g/m}^2$	%	41	-	
					Probability of contact by entrained oil at $\geq 100\text{ppb}$	(%)	74	99	
					Probability of contact by dissolved aromatics at $\geq 70\text{ppb}$	(%)	58	61	
					Maximum oil loading on shorelines	$\text{m}^3$	1051	-	
					Minimum time to contact by floating oil at $\geq 50\text{g/m}^2$	days	12	NC	
					Maximum concentration of entrained oil $\geq 100\text{ppb}$	ppb	114 541	83 297	
					Maximum concentration of dissolved aromatics $\geq 70\text{ppb}$	ppb	1710	7515	
	<b>Physical Habitat</b>								
		Present	Notes	Key periods	Impacts				
	Coral reefs	✓	Very high diversity; Ashmore supports the highest number of coral species of any reef off the West Australian coast	Spawning: Mar/Apr & Oct/Nov	Contact from floating oil is likely to impact the shoreline and result in accumulated stranded oil at discrete locations. Mangroves and intertidal areas may be impacted by being smothered, although continuous tidal movements will mobilise oil and add to dispersion. Contact from entrained oil may impact shoreline through accumulation, although constant tidal and current motions will re-mobilise oil and create further dilution.  Contact from entrained and dissolved oil (although well below threshold levels) may impact submerged habitats resulting in smothering and/or contact toxic impacts; although constant tidal and current motions will re-mobilise oil and create further dilution				
	Seagrasses	✓	Supports a small dugong population at Ashmore	Flowering and fruiting: Oct-Jan					
	Macroalgae and non-coral benthic invertebrates	✓	Algal reef flats important foraging habitat for marine turtles High diversity and abundance of soft corals, gorgonians, sea fans and sponges						
	Mangroves	✗							
	Rocky shoreline	✗							
<b>Marine Fauna</b>									
	Present	Comment	Key periods	Impacts					
Invertebrates	✓	High diversity of molluscs at Ashmore		Contact from floating oil is likely to impact marine fauna by smothering (causing skin/eye irritation and affect ability to thermo-regulate) and oil contact from movement across the shoreline. In addition, ingestion may occur from preening/cleaning body and/or eating oil covered food resulting in internal toxicity. Contact from entrained oil may impact marine fauna by causing skin irritation/toxicity as fauna move through water, or internal toxicity from ingesting oil tainted food. Although constant tidal and current motions will re-mobilise oil and create further dilution and fauna are mobile					
Fish and sharks	✓	Foraging habitat for whale sharks	SBF Tuna: Spawn Oct - Feb Goldband: Spawn - Mar Red Emperor spawn: Oct Whale shark migration: June - Nov						
Birds	✓	Some of the most important seabird rookeries on the North West Shelf. 43 CAMBA and JAMBA listed species at Ashmore	Breeding: May – June/Oct Migrating: Feb-Apr/Sept-Oct						
Marine reptiles	✓	<ul style="list-style-type: none"> <li>Critical nesting and inter-nesting habitat for green turtles at Ashmore and Cartier (DoE 2015a)</li> <li>Moderate nesting of hawksbill turtles at Ashmore</li> <li>Low nesting activity by loggerhead turtles (single report of nesting on West Island, Ashmore)</li> </ul>	Turtles <ul style="list-style-type: none"> <li>Mating: Oct</li> <li>Nesting: Nov – March (peaks Jan – Feb)</li> <li>Hatching: Peaks Mar – Apr</li> </ul> Foraging: Year-round						

Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter	Scenario Result	
						Surface (Worst case scenario)	Subsea (Scenario 8)
		<ul style="list-style-type: none"> <li>Large and significant feeding populations of green, hawksbill and loggerhead turtles</li> <li>World's highest abundance and diversity of sea snakes at Ashmore</li> </ul>	Sea snakes: Mating: ~September				
Marine Mammals	✓	<ul style="list-style-type: none"> <li>Migratory pathway for pygmy blue whales</li> <li>Small population of dugongs at Ashmore (approx. 50 individuals)</li> </ul>	Dugong calving/breeding: Sept-Dec Pygmy Blue whale migration north: May-Aug Pygmy Blue whale migration south – Sept-Dec				
<b>Protected Areas</b>							
	Present	Comment	Impacts				
AMP	✓	Ashmore and Cartier AMPs	With the deeper AMP features the geomorphological features are unlikely to be affected by entrained hydrocarbons, but the receptors will be affected by the change in water quality and impacts to the food chain. However, shallower features within AMPs such as coral reefs around Ashmore Reef and Mermaid Reef would potentially have long term impacts to the habitats supporting receptors as described within this table for coral reefs and other habitats.  Impacts on the values associated with Protected Areas may result in loss of fauna/ habitat diversity and/ or abundance, reduction in commercial/recreational/ subsistence fishing, loss of livelihood and loss of income from reduced tourism and commercial productivity. Several of the AMPs – including Roebuck Bay have conservation values associated with biological attributes including migratory seabirds, flatback turtles, humpback whales, freshwater, green and dwarf sawfish, Australian Snubfin, Indo-Pacific Humpback and Indo-Pacific bottlenose dolphins. Tourism may be impacted by real or perceived reduction in health or mortality of habitats that support tourism activities.				
State MP	✓						
KEF	✓	Ashmore Reef and Cartier Island and surrounding Commonwealth waters Continental Slope Demersal Fish Communities					
RAMSAR	✓	Wetland of International Importance					
	Present	Comment	Key periods	Impacts			
Traditional Owner values	✓	Sea country		Oil contacting shorelines will impact upon these values, in particular, tourism and fishing activities from visible stranded oil and tainted fish			
Indonesian	✓	Artefacts and graves Current resting and staging area from MOU Box		<ul style="list-style-type: none"> <li>Heritage value: onshore graves and artefacts unlikely could be contacted by ent</li> <li>Commercial fishing: a number are licensed to operate in the area</li> </ul>			
Commonwealth heritage list	✓	Ashmore reef only <i>Ann Millicent</i> historical shipwreck at Cartier Island		The habitat and marine fauna which may be contacted by oil (as described above) will then impact upon the socio-			

Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter	Scenario Result	
						Surface (Worst case scenario)	Subsea (Scenario 8)
	Tourism	✓			economic values		
	Recreation	✓					
	Scientific Research	✓					

Protection Priority	Key Values and Potential Impact				Oil Spill Modelling Parameter		Scenario Result		
							Surface (Worst case scenario)	Subsea (Scenario 8)	
Darwin Coast	<b>Physical Habitat</b>				Probability of contact by floating oil at $\geq 10\text{g/m}^2$	%	10	<1	
		Present	Notes	Key periods	Potential impact				
	Coral reefs	✓	Several hard coral communities including the Heritage listed Channel Island corals (AHPI 2012) 13 hard coral species identified, with cover ranging from 13-23% (Cardno 2013b).	Spawning: Mar/Apr & Oct/Nov	Contact from floating oil is likely to impact the shoreline and result in accumulated stranded oil at discrete locations. Mangroves and intertidal areas may be impacted by being smothered, although continuous tidal movements will mobilise oil and add to dispersion. Contact from entrained oil may impact shoreline through accumulation, although constant tidal and current motions will re-mobilise oil and create further dilution.  Contact from entrained and dissolved oil (although well below threshold levels) may impact submerged habitats resulting in smothering and/or contact toxic impacts; although constant tidal and current motions will re-mobilise oil and create further dilution. There is potential for major losses and functions of the benthic coral reefs and seagrass habitats, with recovery spanning over decades given toxicity impacts associated with hydrocarbon exposure. The seagrasses provide important foraging areas for dugongs who may also be impacted by the hydrocarbon.	Probability of contact by entrained oil at $\geq 100\text{ppb}$	(%)	12	10
	Seagrasses	✓	Seagrass habitat is mostly found in sandy intertidal and subtidal substates in the outer region of Darwin Harbour and consists of <i>Halophila</i> and <i>Halodule</i> , which is highly variable in its distribution and cover (Cardno 2014)	Flowering and fruiting: Oct-Jan		Probability of contact by dissolved aromatics at $\geq 70\text{ppb}$	(%)	<1	<1
	Macroalgae and non-coral benthic invertebrates	✓				Maximum oil loading on shorelines	$\text{m}^3$	3342	-
	Mangroves	✓	Intertidal areas between Tapa Bay and Shoal Bay contain over 30,000 hectares (ha) of mangrove habitat (Cardno 2013a). Recognised for its diversity and contains over 30 mangrove species (McGuinness 2003; Wightman 2006)			Minimum time to contact by floating oil at $\geq 50\text{g/m}^2$	days	19	NC
	Rocky shoreline	✓				Maximum concentration of entrained oil $\geq 100\text{ppb}$	ppb	3460	6137
						Maximum concentration of dissolved aromatics $\geq 70\text{ppb}$	ppb	66	25
	<b>Marine Fauna</b>								
		Present	Comment	Key periods	Impacts				
	Invertebrates	✓	Recreationally and commercially important populations of mud crab and prawns	Mud crab spawning: Sept – Nov	Contact from floating oil is likely to impact marine fauna by smothering (causing skin/eye irritation and affect ability to thermo-regulate) and oil contact from movement across the shoreline. In addition, ingestion may occur from preening/cleaning body and/or eating oil covered food resulting in internal toxicity. Contact from entrained oil may impact marine fauna by causing skin irritation/toxicity as fauna move through water, or internal toxicity from ingesting oil tainted food. Although constant tidal and current motions will re-mobilise oil and create further dilution and fauna are mobile.				
	Fish and sharks	✓	Recreationally and commercially important populations of barramundi	Barramundi spawning: Sept - Mar					
	Birds	✓							
	Marine reptiles	✓	Juvenile and adult green turtles forage in mangroves and rocky reef areas						
	Marine Mammals	✓	Foraging population of dugongs in seagrass habitat Darwin Harbour Outer						
<b>Protected Areas</b>									
	Present	Comment		Impacts					



Protection Priority	Key Values and Potential Impact				Oil Spill Modelling Parameter	Scenario Result	
						Surface (Worst case scenario)	Subsea (Scenario 8)
	AMP	×		<p>With the deeper AMP features the geomorphological features are unlikely to be affected by entrained hydrocarbons, but the receptors will be affected by the change in water quality and impacts to the food chain. However, shallower features within AMPs such as coral reefs around Ashmore Reef and Mermaid Reef would potentially have long term impacts to the habitats supporting receptors as described within this table for coral reefs and other habitats.</p> <p>Impacts on the values associated with Protected Areas may result in loss of fauna/ habitat diversity and/ or abundance, reduction in commercial/recreational/ subsistence fishing, loss of livelihood and loss of income from reduced tourism and commercial productivity. Several of the AMPs – including Roebuck Bay have conservation values associated with biological attributes including migratory seabirds, flatback turtles, humpback whales, freshwater, green and dwarf sawfish, Australian Snubfin, Indo-Pacific Humpback and Indo-Pacific bottlenose dolphins. Tourism may be impacted by real or perceived reduction in health or mortality of habitats that support tourism activities.</p>			
	State MP	×					
	KEF	×					
	RAMSAR	×					
		Present	Comment	Key periods	Impacts		
	Traditional Owner values	✓	Sea country		Oil contacting shorelines will impact upon these values, in particular, tourism and fishing activities from visible stranded oil and tainted fish		
	Indonesian	×			<ul style="list-style-type: none"> <li>Commercial fishing: a number are licensed to operate in the area</li> </ul>		
	Commonwealth heritage list	×			The habitat and marine fauna which may be contacted by oil (as described above) will then impact upon the socio-economic values		
	Tourism	✓		Dry Season (May – October)			
	Recreation	✓		Dry Season (May – October)			

Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter		Scenario Result		
							Surface (Worst case scenario)	Subsea (Scenario 8)	
International Waters (including Timor Leste and Indonesia)	<b>Physical Habitat</b>				Probability of contact by floating oil at $\geq 10\text{g/m}^2$	%	7	<1	
		Present	Notes	Key periods					Impacts
	Coral reefs	✓	Fringing reefs are the most common reef types with scleractinian corals being the most dominant and important group ~600 coral species recorded in Indonesia	Spawning: Mar/Apr & Oct/Nov					Contact from floating oil is likely to impact the shoreline and result in accumulated stranded oil at discrete locations. Mangroves and intertidal areas may be impacted by being smothered, although continuous tidal movements will mobilise oil and add to dispersion. Contact from entrained oil may impact shoreline through accumulation, although constant tidal and current motions will re-mobilise oil and create further dilution.  Contact from entrained and dissolved oil (although well below threshold levels) may impact submerged habitats resulting in smothering and/or contact toxic impacts; although constant tidal and current motions will re-mobilise oil and create further dilution
	Seagrasses	✓	Indonesia (west), Kepulauan Seribu National Park, Timor-Leste	Flowering and fruiting: Oct-Jan					
	Macroalgae and non-coral benthic invertebrates	✓							
	Mangroves	✓	Timor Leste coastline features mangrove communities surrounding entrance to rivers primarily on the south coast						
	Rocky shoreline	✓							
					Probability of contact by entrained oil at $\geq 100\text{ppb}$	(%)	23	36	
					Probability of contact by dissolved aromatics at $\geq 70\text{ppb}$	(%)	8	7	
					Maximum oil loading on shorelines	$\text{m}^3$	5462	-	
					Minimum time to contact by floating oil at $\geq 50\text{g/m}^2$	days	28	NC	
					Maximum concentration of entrained oil $\geq 100\text{ppb}$	ppb	10 535	13 804	
				Maximum concentration of dissolved aromatics $\geq 70\text{ppb}$	ppb	843	987		
	<b>Marine Fauna</b>								
		Present	Comment	Key periods	Impacts				
	Invertebrates	✓			Contact from floating oil is likely to impact marine fauna by smothering (causing skin/eye irritation and affect ability to thermo-regulate) and oil contact from movement across the shoreline. In addition, ingestion may occur from preening/cleaning body and/or eating oil covered food resulting in internal toxicity. Contact from entrained oil may impact marine fauna by causing skin irritation/toxicity as fauna move through water, or internal toxicity from ingesting oil tainted food. Although constant tidal and current motions will re-mobilise oil and create further dilution and fauna are mobile				
	Fish and sharks	✓	Whale shark foraging	Whale sharks: year round Goldband: Spawn - Mar Red Emperor spawn: Oct					
	Birds	✓	Pulau Dana, Sulawesi, Lesser Sunda Islands, Lombok	Breeding: May – June/Oct Migrating: Feb-Apr/Sept-Oct					
	Marine reptiles	✓	Marine turtle nesting at Sukamade Beach (mainly green turtles with smaller numbers of leatherback, hawksbill and olive ridley turtles; Meru Betiri National Park), Komodo and Nino Komis National Parks and Pulau Dana Nature Reserve	Turtles • Mating: Oct • Nesting: Nov – March (peaks Jan – Feb) • Hatching: Peaks Mar – Apr Foraging: Year-round					
	Marine Mammals	✓	Savu sea breeding and feeding for whales and dolphins	Dugong calving/breeding: Sept-Dec Pygmy Blue whale migration north: May-Aug Pygmy Blue whale migration south – Sept-Dec					
	<b>Protected Areas</b>								
		Present	Comment	Impacts					

Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter	Scenario Result		
						Surface (Worst case scenario)	Subsea (Scenario 8)	
	National Park	✓	Kepulauan Seribu, Meru Betiri and Komodo National Parks, Pulau Dana Nature Reserve	<p>With the deeper AMP features the geomorphological features are unlikely to be affected by entrained hydrocarbons, but the receptors will be affected by the change in water quality and impacts to the food chain. However, shallower features within AMPs such as coral reefs around Ashmore Reef and Mermaid Reef would potentially have long term impacts to the habitats supporting receptors as described within this table for coral reefs and other habitats.</p> <p>Impacts on the values associated with Protected Areas may result in loss of fauna/ habitat diversity and/ or abundance, reduction in commercial/recreational/ subsistence fishing, loss of livelihood and loss of income from reduced tourism and commercial productivity. Several of the AMPs – including Roebuck Bay have conservation values associated with biological attributes including migratory seabirds, flatback turtles, humpback whales, freshwater, green and dwarf sawfish, Australian Snubfin, Indo-Pacific Humpback and Indo-Pacific bottlenose dolphins. Tourism may be impacted by real or perceived reduction in health or mortality of habitats that support tourism activities.</p>				
	RAMSAR	✓						
		Present	Comment	Key periods	Impacts			
	Traditional Owner values	✗			<p>Oil contacting shorelines will impact upon these values, in particular, tourism and fishing activities from visible stranded oil and tainted fish</p> <p>The habitat and marine fauna which may be contacted by oil (as described above) will then impact upon the socio-economic values</p>			
	Indonesian	✓						
	Commonwealth heritage list	✗						
	Tourism	✓		Year-round				
	Recreation	✓		Year-round				
	Scientific Research	✓						

Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter		Scenario Result		
							Surface (Worst case scenario)	Subsea (Scenario 8)	
Joseph Bonaparte Gulf NT	The Joseph Bonaparte Gulf Marine Park covers an area of 8,600 km <sup>2</sup> and contains key examples of the ecosystems of the Northern Shelf Province.				Probability of contact by floating oil at >=10g/m <sup>2</sup>	%	11	<1	
	<b>Physical Habitat</b>				Probability of contact by entrained oil at >=100ppb	(%)	8	8	
		Present	Notes	Key periods	Impacts	Probability of contact by dissolved aromatics at >= 70 ppb	(%)	<1	<1
	Coral reefs	✓	Benthic substrate mostly shifting sands with high energy water movement. Small isolated specimens of hard corals on the muddy inner shelf		Contact from floating oil is likely to impact the shoreline and result in accumulated stranded oil at discrete locations. Mangroves and intertidal areas may be impacted by being smothered, although continuous tidal movements will mobilise oil and add to dispersion. Contact from entrained oil may impact shoreline through accumulation, although constant tidal and current motions will re-mobilise oil and create further dilution.  Contact from entrained and dissolved oil (although well below threshold levels) may impact submerged habitats resulting in smothering and/or contact toxic impacts; although constant tidal and current motions will re-mobilise oil and create further dilution	Maximum oil loading on shorelines	m <sup>3</sup>	7481	-
	Seagrasses	✓	Not significant areas due to high tidal movements			Minimum time to contact by floating oil at >=10 g/m <sup>2</sup>	days	25	NC
	Macroalgae and non-coral benthic invertebrates	✓	Habitat within the emergent reef systems, shoals and banks			Maximum concentration of entrained oil >=100 ppb	ppb	1965	2315
	Mangroves	✓				Maximum concentration of dissolved aromatics >=70 ppb	ppb	66	25
	Rocky shoreline	✓							
	<b>Marine Fauna</b>								
		Present	Comment	Key periods		Impacts			
	Invertebrates	✓	Key banana prawn habitat Mud crabs	Mud crab spawning: Sept - Nov	Contact from floating oil is likely to impact marine fauna by smothering (causing skin/eye irritation and affect ability to thermo-regulate) and oil contact from movement across the shoreline. In addition, ingestion may occur from preening/cleaning body and/or eating oil covered food resulting in internal toxicity. Contact from entrained oil may impact marine fauna by causing skin irritation/toxicity as fauna move through water, or internal toxicity from ingesting oil tainted food. Although constant tidal and current motions will re-mobilise oil and create further dilution and fauna are mobile				
	Fish and sharks	✓	Sawfish, barramundi and threadfin salmon habitat	Sawfish pupping: early wet season (Nov) Barramundi spawning: Sept - March					
	Birds	✓	Significant feeding and breeding sites	Breeding: May – June/Oct Migrating: Feb-Apr/Sept-Oct					
	Marine reptiles	✓	Green turtle foraging area (BIA) Olive ridley turtle foraging and interesting BIA Hawsbill migration route Significant flatback nesting at Turtle Point	Turtles • Flatback Nesting: year round (peaks June-Aug) Foraging: Year-round					
Marine Mammals	✓	Whales not likely due to shallow water depth Dugongs not expected to be abundant due to lack of seagrass Potential for common, bottlenose, Irrawaddy, Risso's, Indo-Pacific and pantropical spotted dolphin. Subfin dolphin breeding and foraging area	Snubfin dolphin mating: Mar - June						
<b>Protected Areas</b>									

Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter	Scenario Result	
						Surface (Worst case scenario)	Subsea (Scenario 8)
		Present	Comment	Impacts			
	AMP	✓		<p>With the deeper AMP features the geomorphological features are unlikely to be affected by entrained hydrocarbons, but the receptors will be affected by the change in water quality and impacts to the food chain. However, shallower features within AMPs such as coral reefs around Ashmore Reef and Mermaid Reef would potentially have long term impacts to the habitats supporting receptors as described within this table for coral reefs and other habitats.</p> <p>Impacts on the values associated with Protected Areas may result in loss of fauna/ habitat diversity and/ or abundance, reduction in commercial/recreational/ subsistence fishing, loss of livelihood and loss of income from reduced tourism and commercial productivity. Several of the AMPs – including Roebuck Bay have conservation values associated with biological attributes including migratory seabirds, flatback turtles, humpback whales, freshwater, green and dwarf sawfish, Australian Snubfin, Indo-Pacific Humpback and Indo-Pacific bottlenose dolphins. Tourism may be impacted by real or perceived reduction in health or mortality of habitats that support tourism activities.</p>			
	State MP	✓					
	KEF	✓	Carbonate banks of the Sahul Shelf				
	RAMSAR	✓	Adjacent to Ord River Floodplain				
		Present	Comment	Key periods	Impacts		
	Traditional Owner values	✓	Sea country Sacred sites		<p>Oil contacting shorelines will impact upon these values, in particular, tourism and fishing activities from visible stranded oil and tainted fish</p> <ul style="list-style-type: none"> <li>Commercial fishing: a number are licensed to operate in the area</li> </ul> <p>The habitat and marine fauna which may be contacted by oil (as described above) will then impact upon the socio-economic values</p>		
	Indonesian	✓					
	Commonwealth heritage list	✓					
	Tourism	✓					
	Recreation	✓					
	Commercial Fishing	✓	Major prawn fishery				

Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter		Scenario Result		
							Surface (Worst case scenario)	Subsea (Scenario 8)	
Western NT (including Kakadu Coast, Cobourg Peninsula, East Arnhem Land, West Arnhem Land)	Kakadu National Park and Ramsar Wetlands are a mosaic of contiguous wetlands comprising the catchments of two large river systems. It comprises sandstone plateau communities, escarpments, extensive seasonal floodplains, estuaries, tidal flats and offshore islands. The rivers are tidal in their lower reaches and are associated with extensive tidal flats.				Probability of contact by floating oil at $\geq 10\text{g/m}^2$	%	8	<1	
	<b>Physical Habitat</b>				Probability of contact by entrained oil at $\geq 100\text{ppb}$	(%)	15	9	
		Present	Notes	Key periods	Impacts	Probability of contact by dissolved aromatics at $\geq 70\text{ppb}$	(%)	<1	<1
	Coral reefs	✓		Spawning: Mar/Apr & Oct/Nov	Contact from floating oil is likely to impact the shoreline and result in accumulated stranded oil at discrete locations. Mangroves and intertidal areas may be impacted by being smothered, although continuous tidal movements will mobilise oil and add to dispersion. Contact from entrained oil may impact shoreline through accumulation, although constant tidal and current motions will re-mobilise oil and create further dilution.  Contact from entrained and dissolved oil (although well below threshold levels) may impact submerged habitats resulting in smothering and/or contact toxic impacts; although constant tidal and current motions will re-mobilise oil and create further dilution	Maximum oil loading on shorelines	$\text{m}^3$	8047	-
	Seagrasses	✓	Important areas	Flowering and fruiting: Oct-Jan		Minimum time to contact by floating oil at $\geq 10\text{g/m}^2$	days	20	NC
	Macroalgae and non-coral benthic invertebrates	✓				Maximum concentration of entrained oil $\geq 100\text{ppb}$	ppb	1597	1098
	Mangroves	✓	Mangrove forest along the Wildman, West Alligator and East Alligator tidal reaches			Maximum concentration of dissolved aromatics $\geq 70\text{ppb}$	ppb	24	52
	Rocky shoreline	✓							
	<b>Marine Fauna</b>								
		Present	Comment	Key periods	Impacts				
	Invertebrates	✓			Contact from floating oil is likely to impact marine fauna by smothering (causing skin/eye irritation and affect ability to thermo-regulate) and oil contact from movement across the shoreline. In addition, ingestion may occur from preening/cleaning body and/or eating oil covered food resulting in internal toxicity. Contact from entrained oil may impact marine fauna by causing skin irritation/toxicity as fauna move through water, or internal toxicity from ingesting oil tainted food. Although constant tidal and current motions will re-mobilise oil and create further dilution and fauna are mobile				
	Fish and sharks	✓	Barramundi Sawfish	Barramundi spawning: Sept – March Sawfish pupping: Nov					
	Birds	✓	Numerous migratory species that occur in Kakadu are protected under international agreements such as the Bonn convention for conserving migratory species, and Australia's migratory bird protection agreements with China (CAMBA), Japan (JAMBA) and the Republic of Korea (ROKAMBA). 53 species of waterbird	Breeding: May – June/Oct Migrating: Feb-Apr/Sept-Oct					
	Marine reptiles	✓	Important inter-nesting area for the flatback and green turtle BIA (inter-nesting) for leatherback turtles Seasnakes	Turtles • Mating: Oct • Green nesting: Nov – March (peaks Jan – Feb) • Flatback nesting: year round (peaks June-August) • Hatching: Peaks Mar – Apr					

Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter	Scenario Result	
						Surface (Worst case scenario)	Subsea (Scenario 8)
			Foraging: Year-round				
Marine Mammals	✓	Dugong	Dugong calving/breeding: Sept-Dec Dugong foraging: year-round				
<b>Protected Areas</b>							
	Present	Comment		Impacts			
AMP	x			Impacts to National Parks will be to the shoreline/inter-tidal values and the fauna they support			
State MP	x						
National Parks	✓	Garig Gunak Barlu National Park Kakadu National Park					
World Heritage	✓	Kakadu NP					
RAMSAR	✓	Kakadu - Wetland of International Importance					
	Present	Comment	Key periods	Impacts			
Traditional Owner values	✓	Sea country Sacred sites		Oil contacting shorelines will impact upon these values, in particular, tourism and fishing activities from visible stranded oil and tainted fish  The habitat and marine fauna which may be contacted by oil (as described above) will then impact upon the socio-economic values			
Indonesian	✓						
Commonwealth heritage list	✓						
Tourism	✓						
Recreation	✓						
Scientific Research	✓						

Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter		Scenario Result	
							Surface (Worst case scenario)	Subsea (Scenario 8)
Tiwi Islands (Melville Island and Bathurst Island)	<b>Physical Habitat</b>				Probability of contact by floating oil at $\geq 10\text{g/m}^2$ % Probability of contact by entrained oil at $\geq 100\text{ppb}$ (%) Probability of contact by dissolved aromatics at $\geq 70\text{ppb}$ (%) Maximum oil loading on shorelines $\text{m}^3$ Minimum time to contact by floating oil at $\geq 10\text{g/m}^2$ days Maximum concentration of entrained oil $\geq 100\text{ppb}$ ppb Maximum concentration of dissolved aromatics $\geq 70\text{ppb}$ ppb	33	<1	
		Present	Notes	Key periods				Impacts
	Coral reefs	✓		Spawning: Mar/Apr & Oct/Nov				Contact from floating oil is likely to impact the shoreline and result in accumulated stranded oil at discrete locations. Mangroves and intertidal areas may be impacted by being smothered, although continuous tidal movements will mobilise oil and add to dispersion. Contact from entrained oil may impact shoreline through accumulation, although constant tidal and current motions will re-mobilise oil and create further dilution.  Contact from entrained and dissolved oil (although well below threshold levels) may impact submerged habitats resulting in smothering and/or contact toxic impacts; although constant tidal and current motions will re-mobilise oil and create further dilution
	Seagrasses	✓		Flowering and fruiting: Oct-Jan				
	Macroalgae and non-coral benthic invertebrates	✓						
	Mangroves	✓	East coast of islands, covering $\sim 800\text{km}^2$					
	Rocky shoreline	✓						
	<b>Marine Fauna</b>							
		Present	Comment	Key periods				Impacts
	Invertebrates	✓						Contact from floating oil is likely to impact marine fauna by smothering (causing skin/eye irritation and affect ability to thermo-regulate) and oil contact from movement across the shoreline. In addition, ingestion may occur from preening/cleaning body and/or eating oil covered food resulting in internal toxicity. Contact from entrained oil may impact marine fauna by causing skin irritation/toxicity as fauna move through water, or internal toxicity from ingesting oil tainted food. Although constant tidal and current motions will re-mobilise oil and create further dilution and fauna are mobile
	Fish and sharks	✓		SBF Tuna: Spawn Oct - Feb Goldband: Spawn - Mar Red Emperor spawn: Oct				
	Birds	✓	World's largest breeding colony of crested terns	Breeding: May – June/Oct Migrating: Feb-Apr/Sept-Oct				
	Marine reptiles	✓	Large population of the vulnerable olive ridley turtle at Cape Van Diemen on Melville Island	Olive Ridley nesting: Peak April - May				
	Marine Mammals	✓						
	<b>Protected Areas</b>							
	Present	Comment	Impacts					
AMP	x		N/A					
State MP	x							
KEF	x							
RAMSAR	x							
	Present	Comment	Key periods	Impacts				
Traditional	✓	Sea country		Oil contacting shorelines will impact upon these values, in				



Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter	Scenario Result	
						Surface (Worst case scenario)	Subsea (Scenario 8)
	Owner values				particular, tourism and fishing activities from visible stranded oil and tainted fish The habitat and marine fauna which may be contacted by oil (as described above) will then impact upon the socio-economic values		
	Indonesian	X					
	Commonwealth heritage list	X					
	Tourism	✓					
	Recreation	✓					

Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter		Scenario Result		
							Surface (Worst case scenario)	Subsea (Scenario 8)	
Kimberley Coast (including North Kimberley Marine Park, Kimberley Coast)	<b>Physical Habitat</b>				Probability of contact by floating oil at $\geq 10\text{g/m}^2$	%	12	<1	
		Present	Notes	Key periods	Impacts				
	Coral reefs	✓		Spawning: Mar/Apr & Oct/Nov	Contact from floating oil is likely to impact the shoreline and result in accumulated stranded oil at discrete locations. Mangroves and intertidal areas may be impacted by being smothered, although continuous tidal movements will mobilise oil and add to dispersion. Contact from entrained oil may impact shoreline through accumulation, although constant tidal and current motions will re-mobilise oil and create further dilution.  Contact from entrained and dissolved oil (although well below threshold levels) may impact submerged habitats resulting in smothering and/or contact toxic impacts; although constant tidal and current motions will re-mobilise oil and create further dilution	Probability of contact by entrained oil at $\geq 100\text{ppb}$	(%)	15	8
	Seagrasses	✓		Flowering and fruiting: Oct-Jan		Probability of contact by dissolved aromatics at $\geq 70\text{ppb}$	(%)	3	8
	Macroalgae and non-coral benthic invertebrates	✓				Maximum oil loading on shorelines	$\text{m}^3$	5709	-
	Mangroves	✓				Minimum time to contact by floating oil at $\geq 10\text{g/m}^2$	days	38	NC
	Rocky shoreline	✓				Maximum concentration of entrained oil $\geq 100\text{ppb}$	ppb	16 866	11 764
						Maximum concentration of dissolved aromatics $\geq 70\text{ppb}$	ppb	218	1406
	<b>Marine Fauna</b>								
		Present	Comment	Key periods	Impacts				
	Invertebrates	✓			Contact from floating oil is likely to impact marine fauna by smothering (causing skin/eye irritation and affect ability to thermo-regulate) and oil contact from movement across the shoreline. In addition, ingestion may occur from preening/cleaning body and/or eating oil covered food resulting in internal toxicity. Contact from entrained oil may impact marine fauna by causing skin irritation/toxicity as fauna move through water, or internal toxicity from ingesting oil tainted food. Although constant tidal and current motions will re-mobilise oil and create further dilution and fauna are mobile				
	Fish and sharks	✓	Adjacent to important foraging and pupping areas for sawfish Important foraging grounds for whale sharks	SBF Tuna: Spawn Oct - Feb Goldband: Spawn - Mar Red Emperor spawn: Oct Sawfish pupping: Nov Whale shark migration: June - Nov					
	Birds	✓	Some of the most important seabird rookeries on the North West Shelf. CAMBA and JAMBA listed species	Breeding: May – June/Oct Migrating: Feb-Apr/Sept-Oct					
	Marine reptiles	✓	Sea snakes Flatback turtle foraging Nesting and internesting habitat for marine turtles	Turtles • Mating: Oct • Nesting: Nov – March (peaks Jan – Feb) • Hatching: Peaks Mar – Apr Foraging: Year-round					
Marine Mammals	✓	Dugong Australian snubfin dolphin Indo-Pacific humpback dolphin Spotted bottlenose dolphin Pygmy blue whale migration	Dugong calving/breeding: Sept-Dec Pygmy Blue whale migration north: May-Aug Pygmy Blue whale migration south – Sept-Dec						
<b>Protected Areas</b>									

Protection Priority	Key Values and Potential Impacts				Oil Spill Modelling Parameter	Scenario Result	
						Surface (Worst case scenario)	Subsea (Scenario 8)
		Present	Comment	Impacts			
	AMP	✓	Kimberley AMP	<p>With the deeper AMP features the geomorphological features are unlikely to be affected by entrained hydrocarbons, but the receptors will be affected by the change in water quality and impacts to the food chain. However, shallower features within AMPs such as coral reefs around Ashmore Reef and Mermaid Reef would potentially have long term impacts to the habitats supporting receptors as described within this table for coral reefs and other habitats.</p> <p>Impacts on the values associated with Protected Areas may result in loss of fauna/ habitat diversity and/ or abundance, reduction in commercial/recreational/ subsistence fishing, loss of livelihood and loss of income from reduced tourism and commercial productivity. Several of the AMPs – including Roebuck Bay have conservation values associated with biological attributes including migratory seabirds, flatback turtles, humpback whales, freshwater, green and dwarf sawfish, Australian Snubfin, Indo-Pacific Humpback and Indo-Pacific bottlenose dolphins. Tourism may be impacted by real or perceived reduction in health or mortality of habitats that support tourism activities.</p>			
	State MP	✓	North Kimberley MP				
	KEF	x					
	RAMSAR	✓	Roebuck Bay				
		Present	Comment	Key periods	Impacts		
	Traditional Owner values	✓	Wunambal Gaambera, Dambimangari, Bardi Jawi and the Nyul Nyul people's sea country		Oil contacting shorelines will impact upon these values, in particular, tourism and fishing activities from visible stranded oil and tainted fish		
	Tourism	✓			The habitat and marine fauna which may be contacted by oil (as described above) will then impact upon the socio-economic values		
	Recreation	✓					
	Shipwrecks	✓	More than 40 known shipwrecks listed under the Historic Shipwrecks Act 1976				



	Water Quality			Sediment Quality		Shorelines and Coastal Habitats – sandy beaches, rocky shores	Shorelines and Coastal Habitats -Mangroves	Shorelines and Coastal Habitats – intertidal mudflats	Benthic Habitats	Seabirds and Shorebirds	Marine Megafauna	Marine Reptiles	Seafood Quality, Fisheries and Aquaculture	Fish, Invertebrates (Crustaceans and Cephalopods)
	Surface 10g/m <sup>2</sup>	Entrained 100ppb	Dissolved 70ppb	SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6	SMP 7	SMP 8	SMP 9	SMP 10	SMP 11
Arafura AMP	X	X	X	X							X		X	
Arnhem AMP	X	X	X	X							X		X	
Joseph Bonaparte Gulf AMP	X	X		X							X		X	
Oceanic Shoals AMP	X	X	X	X						X	X		X	
Wessel AMP	X	X	X	X										
Argo-Rowley Terrace AMP	X	X	X	X										
Ashmore Reef AMP	X	X	X	X	X					X			X	X
Carnarvon Canyon AMP	X	X	X	X									X	X
Cartier Island AMP	X	X	X	X	X	X			X	X	X	X		
Eighty Mile Beach AMP	X	X	X	X	X	X	X	X		X	X	X	X	X
Gascoyne AMP	X	X	X	X							X		X	X
Kimberley AMP	X	X	X	X		X			X	X	X	X	X	X
Mermaid Reef AMP	X	X	X	X		X			X	X	X		X	X
Montebello AMP	X	X	X	X						X	X		X	X
Roebuck AMP		X	X	X	X		X			X	X	X	X	X



	Water Quality			Sediment Quality		Shorelines and Coastal Habitats – sandy beaches, rocky shores	Shorelines and Coastal Habitats -Mangroves	Shorelines and Coastal Habitats – intertidal mudflats	Benthic Habitats	Seabirds and Shorebirds	Marine Megafauna	Marine Reptiles	Seafood Quality, Fisheries and Aquaculture	Fish, Invertebrates (Crustaceans and Cephalopods)
	Surface 10g/m <sup>2</sup>	Entrained 100ppb	Dissolved 70ppb	SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6	SMP 7	SMP 8	SMP 9	SMP 10	SMP 11
Shelf break and slope of the Arafura Shelf	X	X	X	X										
Carbonate bank and terrace system of the Van Diemen Rise	X	X	X	X										
Tributary Canyons of the Arafura Depression	X	X	X	X										
Gulf of Carpentaria basin	X			X							X	X	X	X
Lalang-garram / Camden Sound Marine Park	X	X	X	X	X		X	X	X	X	X	X	X	X
Lalang-garram / Horizontal Falls Marine Park	X	X		X	X	X			X	X	X		X	X
North Lalang-garram Marine Park	X	X		X	X	X	X	X	X	X	X	X	X	X
North Kimberley Marine Park	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Darwin Coast	X	X	X	X	X	X	X	X	X	X		X	X	X
International Waters	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Western NT	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Tiwi Islands	X	X	X	X	X	X	X	X	X	X		X	X	X