Sea Eagle-1 and Tahbilk-1 Vessel Based Activity Environment Plan

TM-50-PLN-I-00004

Rev 3

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Please refer to the Jadestone Energy MIS for the latest revision.

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Acronyms and Abbreviations

Abbreviation	Description
AFMA	Australian Fishers Management Authority
AFZ	Australian Fishing Zone
AHO	Australian Hydrographic Office
AHS	Australian Hydrographic Service
AIMS	Australian Institute of Marine Science
AIS	Automatic identification system
ALARP	As low as reasonably practicable
AMOSC	Australian Marine Oil Spill Centre
AMP	Australian Marine Parks
AMSA	Australian Maritime Safety Authority
ANZECC / ARMCANZ	Australian and New Zealand Environment and Conservation Council / Agriculture and Resource Management Council of Australia and New Zealand
API	American Petroleum Institute (gravity)
APPEA	Australian Petroleum Production and Exploration Association
ARPA	Automatic Radar Plotting Aid
ASBTIA	Australian Southern Bluefin Tuna Industry Alliance
BIA	Biologically important areas
BMS	Business management system
BOD	Biological oxygen demand
BRUVS	Baited remote underwater video stations
CAMBA	China-Australia Migratory Bird Agreement
CFA	Commonwealth Fisheries Association
CoEP	Code of Environmental Practice
CMMS	Computerised Maintenance Management System
CWI	Company Well Inventory
DAF	Department of Agriculture and Fisheries (NT)
DAHs	Dissolved aromatic hydrocarbons
DAWE	Department of Agriculture, Water and the Environment
DAWR	Department of Agriculture and Water Resources (now DOA)
DBCA	Department of Biodiversity, Conservation and Attractions
DEC	Department of Environment and Conservation (now DBCA)
DEWHA	Department of the Environment, Water, Heritage and the Arts (now DAWE)
DMPE	Department of Mines, Petroleum and Exploration
DNP	Director of National Parks
DOA	Department of Agriculture

Abbreviation	Description
DoD	Department of Defence
DoEE	Department of the Environment and Energy (now DAWE)
DoF	Department of Fisheries (now DPIRD)
DPaW	Department of Parks and Wildlife (now DBCA)
DPIRD	Department of Primary Industries and Regional Development (previously Department of Fisheries)
DSD	Department of State Development
DSEWPaC (now DoEE)	Department of Sustainability, Environment, Water, Population and Communities
EEZ	Exclusive Economic Zone
EMBA	Environment that may be affected
ENVID	Environmental hazard identification (process)
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EP	Environment plan
EPA	Environmental Protection Authority
EP Act	Environmental Protection Act 1986
EPO	Environmental performance outcome
EPS	Environmental performance standard
ESD	Ecologically sustainable development
FDP	Field Development Plan
FPSO	Floating production storage and offtake (facility)
FRC	Fast response craft
FWADC	Fixed Wing Aerial Dispersant Capability
GEMS	Global Environmental Modelling Services
GHG	Greenhouse gases
HC	Hydrocarbon
HLO	Helicopter landing officer
HP	High pressure
HPU	Hydraulic power unit
H2S	Hydrogen sulphide
HRDZ	Hydrocarbon Related Diagenesis Zone
HSE	Health safety and environment
IAP	Incident Action Plan
ICAO	International civil aviation organisation
ICCS	Interface central control system
ICD	Inflow control devices

Abbreviation	Description
IMCRA	Integrated marine and coastal regionalisation of Australia
IMO	International Maritime Organisation
IMPs	Invasive marine pests
IMR	Integrity, maintenance and repair
IMT	Incident Management Team
IOGP	International Association of Oil & Gas Producers
IOPP	International Oil Pollution Prevention (Certificate)
IPIECA	International Petroleum Industry Environmental Conservation Association
ISPP	International Sewage Pollution Prevention (Certificate)
ITF	Indonesian Throughflow (current)
ITOPF	International Tanker Owners Pollution Federation Limited
IUCN	International Union for Conservation of Nature
IWC	International Whaling Commission
JAMBA	Japan-Australia Migratory Bird Agreement
JEE	Jadestone (Eagle) Energy Pty Ltd
JRCC	Joint Rescue Coordination Centre
KEFs	Key ecological features
Kl	Kilolitre
Km	Kilometre
KO	Knock out (drum)
Ksm^3	Thousand standard cubic metres
LC50	Lethal concentration of a compound at which 50% of test species dies within a specified time frame
LAT	Lowest astronomical tide
LMS	Listed migratory species
LOR	Limit of reporting
LOWC	Loss of well control
LP	Low pressure
LSA	Low specific activity
LTS	Listed threatened species
MAHs	Monocyclic aromatic hydrocarbons
MAOP	Maximum allowable operating pressure
MARPOL	International Convention for the Prevention of Pollution from Ships (legislation)
MCR	Marine Conservation Reserve
MDP	Montara Development Project
mg/L	Milligrams per litre

Abbreviation	Description
MGPS	Marine growth protection system
mm	Millimetres
MMA	Marine Management Area
mmscfd	Million standard cubic feet per day
MNES	Matters of national environmental significance
MODU	Mobile offshore drilling unit
MoU	Memorandum of understanding
MP	Marine Park
MPRA	Marine Parks Reserves Authority
MSDS	Material safety data sheet
NCB	North Coast Bioregion
NEBA	Net environmental benefit assessment
NES	National environmental significance
NM	Nautical mile
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NORMs	Naturally occurring radioactive materials
NSF	Northern shark fishery
NSW	New South Wales
NT	Northern Territory
NTOWRP	Northern Territory Oiled Wildlife Response Plan
NWMR	North-West Marine Region
NWS	North-West Shelf
NWSTF	North-West Slope Trawl Fishery
OCIMF	Oil Companies International Marine Forum
OCNS	Offshore chemical notification scheme
ODS	Ozone depleting substances
OGP	Oil and gas producers (association)
OIM	Offshore Installation Manager
OIW	Oil-in-water
OPEP	Oil pollution emergency plan
OPGGS Act	Offshore Petroleum and Greenhouse Gas Storage Act 2006
OPGGS (E) Regs	Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023
OPMF	Onslow Prawn Managed Fishery
OSCAR	Oil Spill Contingency and Response
OSCP	Oil Spill Contingency Plan
OSMP	Operational and scientific monitoring plan

Abbreviation	Description
OSRL	Oil Spill Response Limited
OTA	Operations, Training and Advice
OWR	Oiled wildlife response
PAHs	Polycyclic aromatic hydrocarbons
PHG	Pre-hydrated gel
PLONOR	Pose little or no risk
PMS	Planned Maintenance System
PMST	Protected matters search tool
POB	Persons on board
PPD	Personal protection device
ppb	Parts per billion
ppm	Parts per million
PRS	Production reporting system
PSD	Particle size distribution
PSZ	Petroleum safety zone
PTS	Permanent threshold shift
PTTEP AA	PTT Exploration and Production Australasia
PW	Produced water
QLD	Queensland
RAMSAR	Wetlands of International Importance
RMS	Route mean square
ROKAMBA	Republic of Korea-Australia Migratory Bird Agreement
ROV	Remote operated vehicle
SBFTF	Southern Bluefin Tuna Fishery
SCAT	Shoreline Clean up and Assessment Technique
SCM	Subsea control module
SCSSV	Surface controlled subsurface safety valve
SDS	Safety data sheet
SDU	Subsea distribution unit
SIL	Safety integrity level
SIMOPs	Simultaneous operations
SMP	Scientific monitoring program
SMPEP	Shipboard Marine Pollution Emergency Plan
SO2	Sulphur dioxide
SOLAS	Safety of Life at Sea
SOPEP	Shipboard oil pollution emergency plan

Abbreviation	Description
SPL	Sound pressure level
SRB	Sulphur reducing bacteria
SRFT	Subsea First Response Toolkit
SSS	Side-scan sonar
STP	Sewage treatment plant
SWL	Safe working load
TBT	Tributyltin
TEMPSC	Totally enclosed motor propelled survival craft
TPH	Total petroleum hydrocarbons
TRSV	Tubing retrievable safety valve
TTS	Temporary threshold shift
UPS	Universal power supply
UV	Ultraviolet
VBA	Vessel based activities
VBSA	Vessel based support activity
VDU	Vacuum distillation unit
VOC	Volatile organic compounds
WA	Western Australia
WAF	Water accommodated fraction
WAOWRP	Western Australian Oiled Wildlife Response Plan
WHCP	Wellhead hydraulic control panel
WHP	Wellhead platform
WIAMS	Well Integrity Assurance Management System
WOMP	Well Operations Management Plan
WSTF	Western Skipjack Tuna Fishery
WTBF	Western Tuna and Billfish Fishery
WWC	Wild well control

ENVIRONMENT PLAN SUMMARY

This Jadestone Sea Eagle-1 and Tahbilk-1 Vessel Based Activity (VBA) Environment Plan Summary has been prepared from material provided in this Environment Plan (EP) and associated Oil Pollution Emergency Plan (OPEP). The summary consists of the following as required by Regulation 35(7):

EP Summary material requirement	Relevant section of EP containing EP Summary material
The location of the activity	Section 2.1
A description of the receiving environment	Section 3 and Appendix B

A description of the activity	Section 2
Details of the environmental impacts and risks	Section 6 and 7
The control measures for the activity	Section 6 and 7
The arrangements for ongoing monitoring of the titleholders' environmental performance	Section 8.3
Response arrangements in the oil pollution emergency plan	Section 8.5 and Oil Pollution Emergency Plan
Consultation already undertaken and plans for ongoing consultation	Section 4 and Appendix C
Details of the titleholders nominated liaison person for the activity	Section 1.2

1. INTRODUCTION

1.1 Background

Jadestone Energy (Eagle) Pty Ltd (Jadestone Energy) plans to undertake monitoring of two temporarily abandoned wells, Sea Eagle-1 and Tahbilk-1 which are intended to be used for future hydrocarbon exploitation, in the Montara field via vessel-based activities. Sea Eagle-1 was drilled and temporarily abandoned in 2008, and Tahbilk-1 in 1990. These wells have been accepted by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) as being temporarily abandoned. To support the well integrity status as being ALARP, a subsea well monitoring subsystem combined with annual remote operated vehicle (ROV) inspections is planned in accordance with the accepted Well Operations Management Plan (WOMP), Doc Number M-50-PLN-W-00003 Rev 2 accepted on 22/11/22.

Both wells were shut in and temporarily abandoned with no gauges or pressure monitoring, therefore barrier checking must be performed indirectly. To date annual ROV Surveillance has been used to visually check for any indications of mechanical damage (or change), or emission of fluids or gas that would indicate a barrier has degraded. To date, no indications of external interference or barrier degradation have been noted. Going forward, annual ROV surveys will continue, and a passive monitoring system will be installed on the wellhead. If a hydrocarbon leak develops between ROV inspections, the monitoring system will release a beacon which will connect to a remote operating centre via satellite creating an alert notification to Jadestone who will then investigate.

All activities are within the Commonwealth waters of the Timor Sea, off northern Western Australia (Figure 1-1). The activities described are collectively referred to as the Vessel Based Activities (VBA).

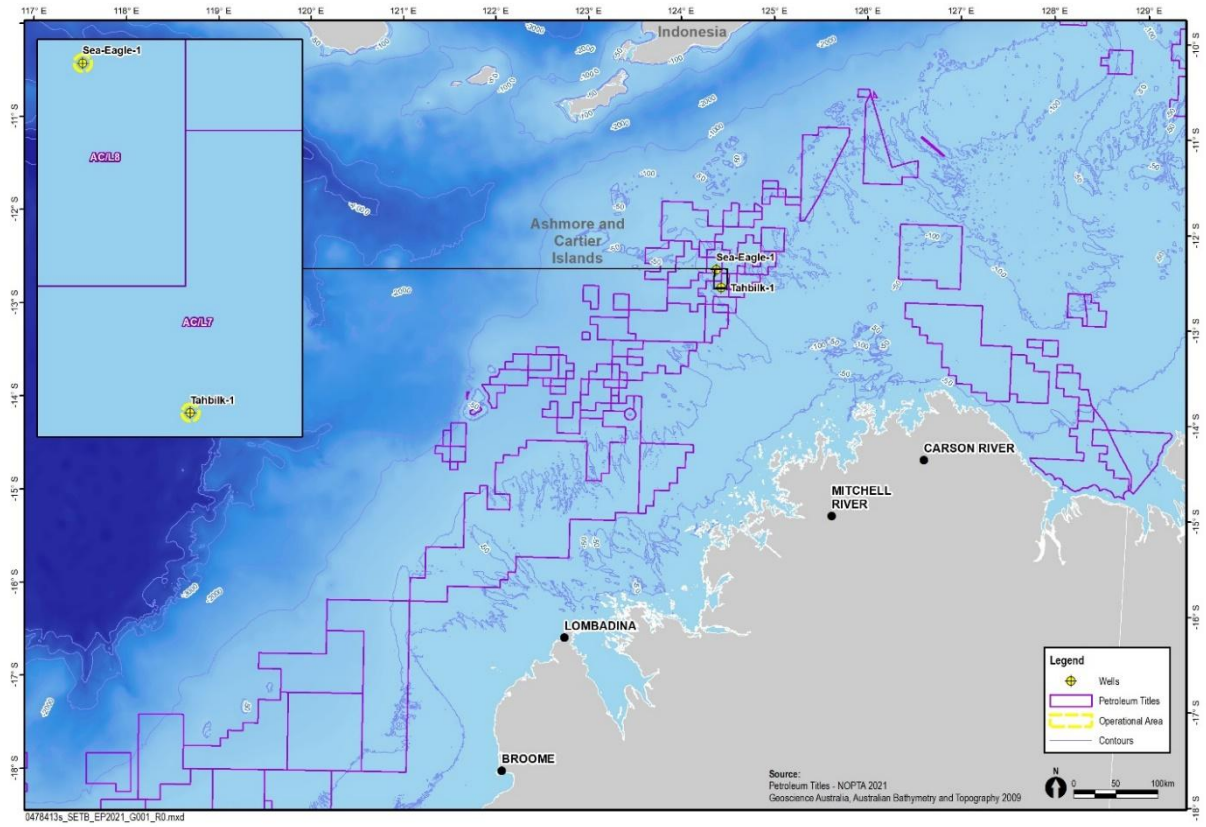


Figure 1-1: Location of the Wellheads, Subsea Fields AC/L7 and AC/L8

1.2 Future plans and decommissioning under Section 572 of the OPGGS Act

At this stage there is no plan for the decommissioning of the Sea Eagle-1 and Tahbilk-1 wells as Jadestone currently foresee their contribution to future exploitation activities. Therefore, this EP describes the ongoing monitoring and maintenance of the wellheads to allow for future re-use of the infrastructure.

1.2.1 Sea Eagle-1 future use

Sea Eagle-1 was initially proposed in the AC/L8 Updated Skua-Swift Field Development Plan (FDP) that was submitted to the Department of Resources Minerals and Energy Titles Division in December 2011 [ref: 241008]. The FDP pointed out that the Swift Field is comprised of two separate oil pools: the Swift pool to the north and the Swallow pool to the south. The FDP also outlined that the Swift Field development will involve four development wells, of which one of those wells being Sea Eagle-1, would be drilled during the second phase of development. While preparing the FDP, it was recognised that risks remained towards the Sea Eagle-1 well location due to a hard geological attribute (Hydrocarbon Related Diagenesis Zone, HRDZ) that was degrading seismic continuity and quality and therefore volumes and connectivity. To address these risks, Sea Eagle-1 was proposed to form part of the second development phase as this would allow for more time to investigate the exact nature of the southern extent of the Swallow pool and optimise well placement (task now complete).

The Sea Eagle-1 bottom hole location was targeted at volumes that were simulated to be undrained by the Swallow-1 well that would form Phase 1 of the development. Swallow-1 was initially anticipated to have a relatively short production life and once depleted, Sea Eagle-1 would be completed and assume the production flow path through the subsea infrastructure presently being used by Swallow-1. Sea Eagle was later drilled into the reservoir in 2008 and a new 9-5/8" casing run. The well was what is today classed as temporarily abandoned and ready to receive the completion. The 9-5/8" casing that was installed has not been drilled through and as a result not been exposed to any damage or wear. After installation, it was left filled with inhibited seawater. In this area, formation fluids external to the casing are not known to be corrosive and the casing was well cemented. Therefore, the condition of the casing should be good and there is no reason to believe the well's age at the time of intended completion will compromise well integrity.

Since drilling, Operatorship of the well has changed to become Jadestone's. In Q2 2020 Jadestone acquired new seismic data across the entire Montara field area where one objective was to de-risk the volumes and commercial viability of Sea Eagle-1. Sea Eagle-1 work has progressed and is sufficiently mature that the following has been concluded:

1. The Swallow-1 well continues to flow at an economic rate and it is expected to continue until the 2027-2028 time period.
2. There is currently no capacity in the subsea system for the Sea Eagle-1 well to be tied in and doing so would back out existing production from Swallow-1 and impact production from other subsea wells.
3. Sea Eagle-1 is ideally located for hydrocarbon exploitation.
4. Hydrocarbons targeted by the Sea Eagle-1 can be economically developed provided the existing and originally intended strategy of using the existing wellbore and Swallow-1 infrastructure is used. If this strategy is not followed, future development of the field will be compromised and uneconomic.
5. Jadestone intend to complete the Sea Eagle-1 well once the Swallow-1 well becomes unable to produce or is uneconomic

1.2.2 Sea Eagle-1 Utilisation or decommissioning Commitments

Jadestone Energy plan to develop and commercially produce from the existing Sea Eagle-1 well in the 2027-2028 time period or sooner. Jadestone commit to that by the time this EP's validity has expired (5 years

following acceptance), the well will either be sanctioned for development with the permissioning cycle started or permissioned for decommissioning (additional approvals will be submitted).

1.2.3 Tahbilk-1 future use

Tahbilk-1 was first identified for use in the AC/L-7 Updated Montara Field Development Plan (ref: 237977) that was submitted to the Department of Resources Minerals and Energy Titles Division in 2011. Tahbilk-1 along with Padthaway, Bilyara and the Montara oil field gas cap were all recognised as holding potentially commercial quantities of gas that could be exploited with offshore processing in a reasonable commercial environment. A pipeline to an onshore facility was assessed and found to be uncommercial and offshore pathways would be required. Condensate produced from the gas is significant and would be exported as a separate stabilised liquid product. At the time, the main development option was for floating LNG and timing for investment would coincide with the late life production of the Montara Field oil leg being depleted and field ready for gas cap blowdown. A condition of commercial viability is that all gas resources need to be combined. Hence, Tahbilk-1 would be developed with the other resources unless an alternate form of gas handling infrastructure is introduced.

Since Jadestone's acquisition of the AC/L-7 title area in 2018, work has commenced on re-evaluating and refreshing the greater Montara area with a view towards developing the pending gas resources. The HRDZ layer above the Tahbilk reservoir is present and especially strong; it covers a large area over Tahbilk and previously reprocessed seismic has been unable to resolve the high frequency seismic signals which are needed to better resolve the reservoir and potential hydrocarbon volume. The seismic data acquired in Q2 2020 was intended to resolve this issue and the work plan is shared in the next sub chapter.

In terms of exploiting Tahbilk gas, Tahbilk-1 well use is a pre-requisite for commercial viability. The well is in a good location and a sidetrack is not required. Even if the estimated resources in place err to the high case, they would not be enough to justify a new wellbore. In line with the original FDP work, the well is adequately placed and the pathway to monetisation is a tieback to offshore infrastructure. In terms of infrastructure, gas development plans for Tahbilk and the greater Montara area gas exploitation are evolving. A third party Operating Company is expected to sanction an offshore gas development in 2022. This development is located in blocks nearby to AC/L-7. Jadestone has had engagements with the Operator and making development more a matter of timing and de-risking of volumes. It also presents a better environmental outcome by doing more with less.

Tahbilk-1 is a vertical well and was left in a state where it was anticipated to be re-entered and completed for production and this forms the development case. As a vertical well, casing wear is negligible and formation fluids that surround the well are not known to be corrosive. Inhibited drilling fluid was left inside the well limiting risks of internal corrosion.

1.2.4 Tahbilk-1 work commitments

To progress the final decision to develop or permanently abandon Tahbilk-1, an integrated subsurface study which includes Geophysical Studies Seismic interpretation, Petrophysical Evaluation, Geological Static Modelling and Dynamic Modelling are required and planned over a 2 year period (May 2022 to May 2024). The study will properly delineate the discovered Non-Associated Gas (NAG) resources in Tahbilk Field, reducing uncertainty defining the commercial way forward. An integrated gas development between the discovered NAG Fields; Tahbilk, Padthaway and Bilyara will be coupled with the plan for gas cap blowdown from Montara Field with tie-in to infrastructure previously mentioned. An overview of the studies are provided below with a work schedule provided in Figure 1-2.

a. Geophysical Studies - Seismic interpretation

A new Cygnus 3D Seismic data was acquired back in 2020 which gives a better-quality image for Jadestone asset including the discovered gas fields surrounding Montara field. This gives us the opportunities to further evaluate the 3 gas discoveries and reduce the level of uncertainty that the earlier seismic data could

not. The processing of this new Cygnus 3D data was optimized to image the reservoir better below the HRDZ distortions.

The Seismic interpretation studies will start in May 2022 and will include seismic well tie, fault interpretation, horizon interpretation and velocity modelling. The studies will take approximately 9 months from May 2022 to January 2023 and will be conducted using PETREL software geophysical modules.

b. Petrophysical Evaluation

NAG was discovered in Tahbilk-1 well in the good quality, blocky Cycle IV Montara formation. Although there is only 1 well penetration in Tahbilk field, there are many well penetrations of Cycle IV Montara Formation across Montara producing fields and nearby gas discovery fields. Since the amount of data acquired in Tahbilk-1 is limited, it is crucial to integrate the data acquired in similar formation especially for the reservoir characterization, rock typing, and saturation height function evaluation which required core data analysis. RCA and SCAL data are available from Montara and Bilyara fields with similar reservoir quality.

The petrophysical interpretation work will start in February 2023 and will include probabilistic modelling, core calibration, applied model and integration with G&G, PT analysis for contact determination and PP model for verification. The studies will take approximately 4 months from February 2023 to May 2023 and will be conducted using Techlog software.

c. Geological Static Modelling

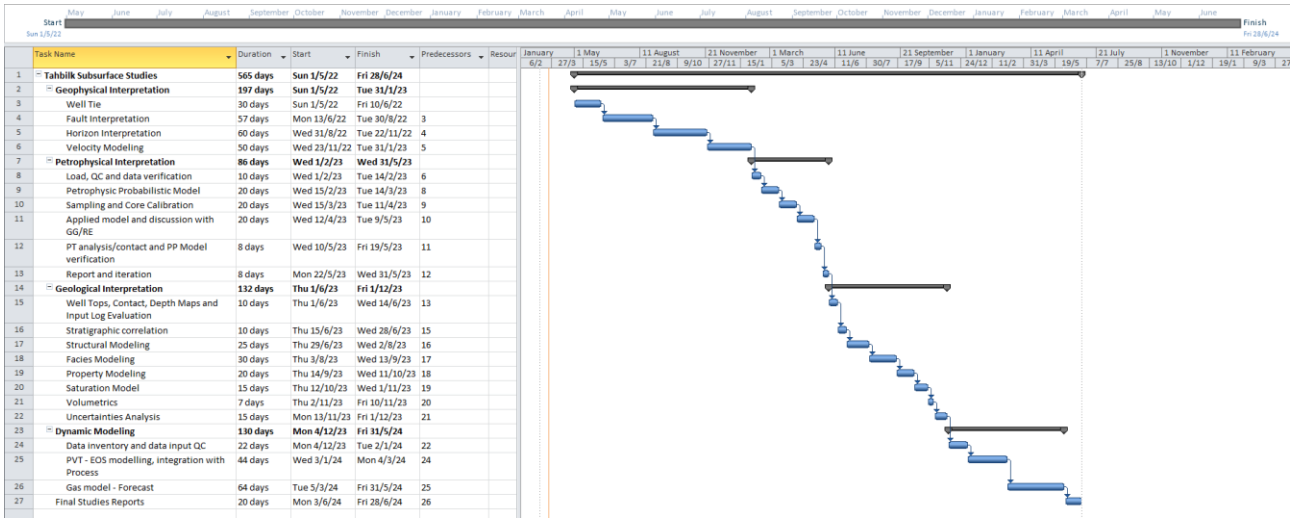
The final petrophysical and geophysical input will be incorporated into the static model which will involve data input QC, structural modelling, facies modelling, property modelling and volumetric and uncertainties analysis. This process will take approximately 7 months starting June 2023 to November 2023.

d. Dynamic Model/Flow Assurance

The final process is the dynamic modelling process which will take approximately 6 months from December 2023 to May 2024. The static model will first be imported and initialized, and the data input will be checked. The dynamic model is then used to evaluate Tahbilk gas development scenarios that include producing gas from Tahbilk from the existing Tahbilk-1 well in an integrate development with the proposed infrastructure previously mentioned.

e. Commercial Negotiations for Infrastructure Use

Access negotiations to the previously referred infrastructure can commence upon completion of the integrated subsurface study. This process is anticipated to take approximately 18 months once commenced. Access negotiations can commence when the receiving Asset Owner is ready for such negotiations and this may not be until later in the EP validity period. Once negotiations complete, there would be a clear indication of timing for when Tahbilk-1 can be completed or if there is no business opportunity and the well needs to be permanently abandoned.



	Task Name	Duration	Start	Finish	Predecessors	Resour
1	**Tahbilk Subsurface Studies**	**565 days**	**Sun 1/5/22**	**Fri 28/6/24**		
2	**Geophysical Interpretation**	**197 days**	**Sun 1/5/22**	**Tue 31/1/23**		
3	Well Tie	30 days	Sun 1/5/22	Fri 10/6/22		
4	Fault Interpretation	57 days	Mon 13/6/22	Tue 30/8/22	3	
5	Horizon Interpretation	60 days	Wed 31/8/22	Tue 22/11/22	4	
6	Velocity Modeling	50 days	Wed 23/11/22	Tue 31/1/23	5	
7	**Petrophysical Interpretation**	**86 days**	**Wed 1/2/23**	**Wed 31/5/23**		
8	Load, QC and data verification	10 days	Wed 1/2/23	Tue 14/2/23	6	
9	Petrophysic Probabilistic Model	20 days	Wed 15/2/23	Tue 14/3/23	8	
10	Sampling and Core Calibration	20 days	Wed 15/3/23	Tue 11/4/23	9	
11	Applied model and discussion with GG/RE	20 days	Wed 12/4/23	Tue 9/5/23	10	
12	PT analysis/contact and PP Model verification	8 days	Wed 10/5/23	Fri 19/5/23	11	
13	Report and iteration	8 days	Mon 22/5/23	Wed 31/5/23	12	
14	**Geological Interpretation**	**132 days**	**Thu 1/6/23**	**Fri 1/12/23**		
15	Well Tops, Contact, Depth Maps and Input Log Evaluation	10 days	Thu 1/6/23	Wed 14/6/23	13	
16	Stratigraphic correlation	10 days	Thu 15/6/23	Wed 28/6/23	15	
17	Structural Modeling	25 days	Thu 29/6/23	Wed 2/8/23	16	
18	Facies Modeling	30 days	Thu 3/8/23	Wed 13/9/23	17	
19	Property Modeling	20 days	Thu 14/9/23	Wed 11/10/23	18	
20	Saturation Model	15 days	Thu 12/10/23	Wed 1/11/23	19	
21	Volumetrics	7 days	Thu 2/11/23	Fri 10/11/23	20	
22	Uncertainties Analysis	15 days	Mon 13/11/23	Fri 1/12/23	21	
23	**Dynamic Modeling**	**130 days**	**Mon 4/12/23**	**Fri 31/5/24**		
24	Data inventory and data input QC	22 days	Mon 4/12/23	Tue 2/1/24	22	
25	PVT - EOS modelling, integration with Process	44 days	Wed 3/1/24	Mon 4/3/24	24	
26	Gas model - Forecast	64 days	Tue 5/3/24	Fri 31/5/24	25	
27	Final Studies Reports	20 days	Mon 3/6/24	Fri 28/6/24	26	

Figure 1-2: Work breakdown structure of the integrated subsurface study

1.2.5 Tahbilk-1 Utilisation or Decommissioning Commitments

Jadestone Energy plan to de-risk and develop to commercially produce from the existing Tahbilk-1 well. By the end of this EP's Validity period, in 2027, one of the following criteria will be met.

1. The well will be permissioned for Permanent Abandonment.
2. If not already concluded, a commercial agreement will be in negotiation between Jadestone and the third-party Operator with a view to sanction for development.

The expected date for a decision is Q2 2027 and it is anticipated that the commercial agreement would be in place, however this is dependent on third party operator timelines as well. Therefore, prior to the expiry of this EP, it is expected that the permissioning cycle will have started for decommissioning or development (additional approvals will be submitted).

1.3 Operator and Titleholder Details

Jadestone Energy is engaged in exploration, appraisal and pre-development activities in South East Asia, with a portfolio of ten exploration and pre-development assets. Jadestone Energy is an active operator within the region and the Company's principal focus is on assets in Australia, Indonesia, Vietnam and the Philippines. Jadestone Energy (Eagle) Pty Ltd is the sole titleholder of production licences AC/L7 and AC/L8 with operational control of the VBA.

Jadestone Energy's Australian office is located at:

The Atrium Building

Level 2, 168 St Georges Terrace

Perth WA 6000.
ACN 627 006 679 (Jadestone Energy (Eagle) Pty Ltd)

Jadestone Energy's contact for the Sea Eagle-1 and Tahbilk-1 VBA is:

Jeanette Gordon, Senior Wells & Completions Engineer
Phone: +61 8 9486 6600
Email: aucompliance@jadestone-energy.com

In the event contact details for Jadestone Energy or the liaison contact change within the timeframe of this EP, the Regulator, the National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA) will be advised of the updated details.

1.4 HSE Policy

Protecting the environment, valuing cultural heritage and maintaining open stakeholder communication are an integral part of Jadestone Energy's business approach. This is reflected in Jadestone Energy's Health, Safety and Environment (HSE) Policy (Figure 1-3) and this EP.

1.5 Legislative Framework

The VBA are located within the Commonwealth Petroleum Jurisdiction Boundary and therefore regulated under Commonwealth legislation; primarily under the OPGGS Act and the OPGGS(E) Regulations. In accordance with Regulation 21(4) of the OPGGS(E) Regulations, this section describes the Commonwealth legislation, international agreements and other relevant guidelines and codes of practice to the VBA. In the unlikely event of an unplanned hydrocarbon release that migrates into state waters, Western Australia (WA) or Northern Territory (NT) legislation will be triggered. Applicable Commonwealth and state legislation are listed in Appendix A, with key legislation summarised below:

Offshore Petroleum and Greenhouse Gas Storage Act 2006

The OPGGS Act and OPGGS(E) Regulations specify the requirements to manage the environmental impacts of petroleum activities. The Regulations require that an EP must be accepted by the regulatory authority (NOPSEMA) prior to commencing the proposed activity. NOPSEMA guidelines outline the requirements for the content of EPs.

Environment Protection and Biodiversity Conservation Act 1999

Under Commonwealth government streamlining arrangements, NOPSEMA's assessment of this EP provides consideration of the impacts to matters of national environmental significance (MNES) protected under Part 3 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This obviates the requirement to refer the project to the Department of Agriculture, Water and the Environment (DAWE).

JADESTONE ENERGY PLC ("COMPANY")
HEALTH, SAFETY, SECURITY AND ENVIRONMENTAL POLICY
("POLICY")

Jadestone Energy is committed to protecting the health and safety of everybody who plays a part in our operations, lives in the communities in which we operate, whilst protecting the environment and complying with legislative and regulatory requirements. We aim to eliminate all major accidents, life altering or environmental harm events with a continuous improvement mindset. This policy is applicable at all our operated sites, offices, warehouses, and where we have operational controls.

Our Plan:

- Leadership is visible at all operating sites, understanding how work gets done, supporting continuous improvement, risk management and setting clear accountability and expectations.
- Our workers understand they have a duty of care to ensure their own safety and the safety of those around them.
- Everyone has stop work authority if they see, or perceive something is unsafe, or could harm the environment.
- Maintain compliance with the Company's HSSE Management Systems and Standards
- Put health, safety and environmental considerations into every operational decision, reducing risks to a level that is as low as reasonably practical.
- Implement controls to help mitigate human error
- Comply with applicable laws, regulations, building trust with regulators and the community
- Demonstrate a commitment to being a good neighbor in the communities in which we operate and will consult proactively with stakeholders on issues of mutual interest
- Maintain a commitment to reducing our carbon footprint, conserving natural resources, and minimizing waste, emissions, and releases throughout our operations
- Everyone has a duty and obligation to report incidents, near misses, hazards, unsafe acts or HSSE concerns they observe in the course of performing their work
- Foster a learning culture that allows learning from successful work and unwanted events, implementing barriers to prevent recurrence, and sharing these learnings widely
- Require all contractors to have an HSSE management system that either equals or exceeds the Company's.
- Ensure all workers understand their HSSE responsibilities and are trained to perform their assignments with competency
- Maintain a state of preparedness to respond to emergencies including security related events, preventing escalation whilst minimizing damage or harm
- Monitor performance against our HSSE management systems and regulations through robust audit and verification programs
- Provide a safe and healthy workplace by identifying and mitigating occupational health risks, promote health wellness programs

Our Expectation
Through implementation of this policy, Jadestone seeks to earn the public's trust and to be recognized for excellent HSSE performance.

T. Mitch Little
Chief Executive Officer

www.jadestone-energy.com Doc # JSE014/2021 Date: 1, July 2025
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Figure 1-3 Jadestone Energy's HSSE Policy

Ecologically Sustainable Development

Australia has developed a National Strategy for Ecologically Sustainable Development (ESD) (available at https://www.environment.gov.au/about-us/esd/publications/national-esd-strategy-part1), which identifies four principles and ways to apply them to a range of industry sectors and issues such as climate change, biodiversity conservation, urban development, employment, and economic activity, diversity and resilience. OPGGS(E) Regulation 4 states that any petroleum activity carried out in an offshore area is carried out in a manner consistent with the principles of Ecologically Sustainable Development (ESD) as set out in section 3A of the EPBC Act. These are listed below:

a. Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations

b. If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation

c. Principle of inter-generational equity: that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations

d. The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making, and

e. Improved valuation, pricing and incentive mechanisms should be promoted.

Jadestone Energy has incorporated the principles of ESD into the decision-making framework described in Section 0 and in the development of control measures and environmental performance outcomes proposed in Sections 6 and 7. Jadestone Energy believes that the commitments made within this EP demonstrate that the environmental management of the activity will be conducted in accordance of the principles of ESD.

Australia is signatory to several international environmental protection agreements and conventions which are relevant to the region, including for the protection of wetlands and environmental values. Australia is also a signatory to several international conventions of potential relevance to the activity, including:

- Australia-Indonesia Memorandum of Understanding regarding the Operations of Indonesian Traditional Fishermen in Areas of the Australian Fishing Zone (AFZ) and Continental Shelf – 1974 (Memorandum of Understanding Box);
- Convention on the Conservation of Migratory Species of Wild Animals 1979 (Bonn Convention);
- International Convention on Oil Pollution Preparedness, Response and Co-operation 1990;
- Protocol to International Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter 1996;
- International Convention for the Prevention of Pollution from Ships (MARPOL); and
- United Nations Convention on the Law of the Sea 1982.

A summary of conventions, standards, guidelines and policies relevant to the VBA is provided below in Table 1-1.

1.6 This Environment Plan

The VBA Environment Plan (this EP hereafter) has been prepared in accordance with the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (OPGGS(E) Regulations) under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGS Act) and as administered by NOPSEMA.

The objectives of this EP are to ensure that:

- All activities associated with the Activity are planned and conducted in accordance with Jadestone Energy's Health, Safety and Environmental (HSE) Policy in Section 1.4;
- Potential adverse environmental impacts and risks associated with the proposed activities, during both routine and non-routine operations, are continually reduced to as low as reasonably practicable (ALARP) and of acceptable levels; and
- That the environmental performance outcomes (EPO) and environmental performance standards (EPS) outlined in this EP are met.

This EP contains the environmental impact assessment for the VBA. The assessment aims to systematically identify and assess the potential environmental impacts and risks associated with the activity and to stipulate mitigation measures to avoid and/or reduce any adverse impacts to the marine environment to ALARP and acceptable levels. The implementation of the EPOs specified within this document will provide Jadestone Energy with the required level of assurance that the activities are being managed in an environmentally responsible manner.

NOPSEMA's Guidance Note for Environment Plan Content Requirements (GN-1344; Rev 4, April 2019) was referred to in the preparation of this EP.

Table 1-1: Summary of Applicable International Conventions, Industry Standards, Guidelines and Policy Documents

Guideline	Description
Australian and New Zealand guidelines for fresh and marine water quality (online guidance tool, 2018 revision)	These guidelines provide a framework for water resource management and state specific water quality guidelines for environmental values, and the context within which they should be applied.
Australian Ballast Water Requirements, Version 8, 2020	Australian Ballast Water Management Requirements outline the mandatory ballast water management requirements to reduce the risk of introducing harmful aquatic organisms into Australia's marine environment through ballast water from international vessels. These requirements are enforceable under the *Biosecurity Act 2015*.
Australian Biofouling Management Requirements, Version 2 2023	The *Australian biofouling management requirements, Version 2* set out vessel obligations and best practice for the management of biofouling when operating vessels under biosecurity control within Australian territorial seas.
Australian Marine Parks	Australian Marine Parks are established by proclamation under the *EPBC Act* for the purpose of protecting and maintaining biological diversity in the parks. An environment plan (EP) must be consistent with the Australian Marine Park Management plans. In all cases where an activity has potential to impact or present risk to AMPs, regardless of whether the activity is inside or outside a park, the EP should evaluate how these impacts and risks will be of an acceptable level and reduced to as low as reasonably practicable (ALARP).
Australian Marine Spatial Information System (AMSIS) https://amsis-geoscience-au.hub.arcgis.com/	The Australian Marine Spatial Information System (AMSIS) (formerly known as Conservation Values Atlas) has been developed by the Commonwealth Government. This is used for the identification of Biologically Important Areas (BIA), KEFs etc. which have been presented in the Section 3 and considered in the assessment of impacts and risks in Sections 6 and 7. BIA's are identified by the Commonwealth government, are spatially defined areas where aggregations of individuals of a species are known to display biologically important behaviour, such as breeding, foraging, resting or migration.
Bilateral Agreements on the Protection of Migratory Birds	Australia has negotiated bilateral agreements with Japan (Japan-Australia Migratory Birds Agreement [JAMBA], 1974), China (China-Australia Migratory Birds Agreement [CAMBA], 1986) and the Republic of Korea (Republic of Korea – Australia Migratory Birds Agreement [ROKAMBA], 2007) to protect species of migratory birds with international ranges. In November 2006, the East Asian-Australasian Flyway Partnership (Flyway Partnership) was launched in order to recognise and conserve migratory waterbirds in the East Asian – Australasian Flyway for the benefit of people and biodiversity.
Biosecurity Act 2015 Biosecurity Regulations 2016 Biosecurity Amendment (Biofouling Management) Regulations 2021	The Act and its supporting legislation are the primary legislative means for managing risk of pests and diseases entering into Australian territory and causing harm to animal, plant and human health, the environment and/or the economy.
Bonn Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil and other harmful substances (Bonn Agreement)	The Bonn Agreement is the mechanism by which the North Sea states, and the European Union (the Contracting Parties), work together to help each other in combating pollution in the North Sea area from maritime disasters and chronic pollution from ships and offshore installations; and to carry out surveillance as an aid to detecting and combating pollution at sea. The Bonn Agreement Oil Appearance Code (BAOAC) may be used during spill response activities.
Climate Change Act 2022	The Act sets out Australia's greenhouse gas emissions reduction targets. It outlines Australia's greenhouse gas emissions reduction targets of a 43% reduction from 2005 levels by 2030 and net zero by 2050; requires the minister to prepare and table an annual climate change statement; requires the Climate Change Authority to give the minister advice in relation to the annual statement and future greenhouse gas emissions reduction targets; and provides for periodic reviews of the operation of the Act. The Act operates as 'umbrella' legislation to implement Australia's net-zero commitments and codifies Australia's net 2030 and 2050 GHG emissions reductions targets under the Paris Agreement.
Convention on Biological Diversity (1992)	The objectives of the convention are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

Guideline	Description
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	The Environment Protection and Biodiversity Conservation Act (EPBC) provides for the protection of the environment, especially those aspects of the environment that are matters of National Environmental Significance (NES); and promotes ecologically sustainable development through the conservation and ecologically sustainable use of natural resources. Under this legislation all activities that will, or have the potential to, affect matters of NES are prohibited except; when undertaken in accordance with approval by the Minister for Environment, or when approved through a Bilateral Agreement with a State or Territory, or when approved through a process accredited by the Minister. Matters of "National Environmental Significance" are: World Heritage Properties National Heritage Places Wetlands of International Importance Listed Threatened Species and Communities Listed Migratory Species Nuclear Actions Commonwealth Marine Areas Great Barrier Reef Marine Park.
EPBC Act-related guidelines	Relevant guidelines/policies and marine bioregional plans are considered in the management of impacts and risks
International Convention for the Control and Management of Ships' Ballast Water and Sediments (Ballast Water Convention) 2004	The International Convention for the Control and Management of Ships Ballast Water and Sediment entered into force on 8th September 2017 (IMO Briefing 22 2016). It aims to prevent the spread of harmful aquatic organisms from one region to another, by establishing standards and procedures for the management and control of ships' ballast water and sediments. Ballast Water Management systems must be approved by the Administration in accordance with this IMO Guidelines.
International Convention for the Prevention of Pollution from Ships, 1973/1978 (MARPOL 73/78)	This convention is designed to reduce pollution of the seas, including dumping, oil and exhaust pollution. MARPOL 73/78 currently includes six technical annexes. Special areas with strict controls on operational discharges are included in most annexes.
International Convention for the Safety of Life at Sea (SOLAS) 1974	In the event of an offshore emergency event that endangers the life of personnel, the International Convention for the Safety of Life at Sea (SOLAS) 1974 may take precedence over environmental management.
International Convention on Civil Liability for Oil Pollution Damage (1969)	The convention and the associated International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971 set up a system of compulsory insurance and strict liability up to a certain figure for damages suffered as a result of an oil spill accident.
International Convention on Oil Pollution Preparedness, Response and Co-operation (1990)	This convention sets up a system of oil pollution contingency plans and cooperation in fighting oil spills.
International Convention on the Control of Harmful Anti-fouling Systems on Ships 2001	This convention prohibits the use of harmful organotin in anti-fouling paints used on ships and establishes a mechanism to prevent the potential future use of other harmful substances in anti-fouling systems.
International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (1969)	The convention gives States Parties powers to intervene on ships on the high seas when their coastlines are threatened by an oil spill from that ship.
London (Dumping) Convention (1972)	Dumping at sea is regulated by the convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter 1972 (the 'London Convention'). Article 4 provides a general prohibition on dumping of wastes except as specified in the Convention. The convention has annexed to it two lists of substances, the 'black list' of substances which may not be dumped at all, and the 'grey list' of substances which may only be dumped under a specific permit.
Marine Bioregional Plans	Marine bioregional plans are identified and considered in Section 3. Key Ecological Features (KEF) are elements of the Commonwealth marine environment that are considered to be of regional importance for either a region's biodiversity or its ecosystem function and integrity. 4 KEFs intersect with the EMBA: Ancient coastline at 125m depth contour; Ashmore Reef and Cartier Island and Surrounding Commonwealth Waters; Carbonate Bank and Terrace System of the Sahul Shelf; Continental Slope Demersal Fish Communities;

Guideline	Description
Marine Orders Part 91 – Marine Pollution Prevention — Oil	Marine Orders Part 91 implements Part II of the POPS Act, Chapter 4 of the Navigation Act 2012, and Annex I of MARPOL 73/78 (oil pollution). The Marine Orders provide standards for the discharge of certain oily mixtures or oily residues and associated equipment and include duties to manage bunkering and transfers of oil between vessels; to maintain Oil Record Books and Shipboard Oil Pollution Emergency Plans (SOPEPs); and to report oil pollution.
Marine Orders Part 93 – Marine pollution prevention — to noxious liquid substances; and Marine Orders Part 94 – Marine pollution prevention — packaged harmful substances	The requirements of Marine Orders Part 93 and Marine Orders Part 94 and the POPS Act relating to noxious liquid substances and packaged harmful substances do not apply to the activity on the basis that: the activity does not involve 'chemical tankers' or 'NLS tankers' that carry a cargo of noxious liquid substances in bulk, as defined by Annex II of MARPOL 73/78. Packaged harmful substances, as defined by Annex III of MARPOL 73/78, are not carried on board the FPSO or vessels.
Marine Orders Part 95 – Marine pollution prevention — garbage	Marine Orders Part 95 – Marine pollution prevention — garbage implements Part IIIC of the POPS Act, Chapter 4 of the Navigation Act 2012, and Annex V of MARPOL 73/78 (garbage). The Marine Orders provide for the discharge of certain types of garbage at sea, waste storage, waste incineration, and the comminution and discharge of food waste. They also set out requirements for garbage management and recording.
Marine Orders Part 96 – Marine pollution prevention — sewage	Marine Orders Part 96 – Marine pollution prevention — sewage implements Part IIIB of the POPS Act, Chapter 4 of the Navigation Act 2012, and Annex IV of MARPOL 73/78 (sewage). The Marine Orders include requirements for the treatment, storage and discharge of sewage and associated sewage systems, and for an International Sewage Pollution Prevention (ISPP) certificate to be maintained on board.
Marine Orders Part 97 – Marine pollution prevention — air pollution	Marine Orders Part 97 – Marine pollution prevention — air pollution implements Part IIID of the POPS Act, Chapter 4 of the Navigation Act 2012, and Annex VI of MARPOL 73/78 (air pollution). The Marine Orders set requirements for marine diesel engines and associated emissions, waste incineration on board vessels, engine fuel quality, and equipment and systems containing ozone-depleting substances (ODS).
Marine Order 98 (Harmful anti-fouling systems	This Marine Order prescribes matters for the Protection of the Sea (Harmful Anti-fouling Systems) Act 2006 (AFS Act) and gives effect to survey requirements under the International Convention on the Control of Harmful Anti-fouling Systems on Ships (Convention).
National Biofouling Management Guidance for the Petroleum Production and Exploration Industry (Commonwealth of Australia 2009)	A voluntary biofouling management guidance document developed under the National System for the Prevention and management of Marine Pest Incursions. Its purpose is to provide tools to operators to minimise the amount of biofouling accumulating on their vessels, infrastructure and submersible equipment and thereby to minimise the risk of spreading marine pests.
Navigation Act 2012	The primary legislation that regulates ship and seafarer safety, shipboard aspects of protection of the marine environment, and employment conditions for Australian seafarers.
NOPSEMA OPGGS Act-related guidelines	NOPSEMA guidelines applicable to the VBA include: NOPSEMA Guidance note: Environment plan content requirements (N04750-GN1344, January 2024); NOPSEMA Guidance note: Notification, reporting and recording requirements for incidents (N-03000-GN2303, July 2025NOPSEMA Guidance note: Petroleum activities and Australian Marine Parks (N-04750-GN 1785, January 2024); NOPSEMA Guidance Note: Oil Pollution Risk Management (N-04750-GN1488, July 2025) NOPSEMA Guideline: Consultation in the course of preparing an environment plan (N-04750-GL2086, May 2024) NOPSEMA Guideline: Environment Plan decision making (N-04750-GL1721, Januarye 2024) NOPSEMA Guideline: End of the operation of an environment plan -Regulation 46 (N-04750-GL1691, January 2025) NOPSEMA bulletin: Oil Spill modelling (Bulletin #1, April 2019)

Guideline	Description
North and North West Marine Networks Management Plan for Australian Marine Park (AMP)	In recognition of the importance of the marine environment, it is listed as a matter of national environmental significance under the EPBC Act. The objectives of the North and North-west Marine Parks Management Plans 2018 for the AMPs are to provide for: the protection and conservation of biodiversity and other natural, cultural and heritage values of marine parks in the North-west Network ecologically sustainable use and enjoyment of the natural resources within marine parks in the 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 • Socio-economic values — the benefit of marine parks for people, businesses and the economy.
OPGGS Act (2006) and OPGGS (E) Regulations 2023	Under the OPGGS (E) Regulations an EP is required for proposals under Commonwealth jurisdiction, comprising a description of the environmental effects and risks of the project, and proposed mitigation measures to reduce these risks. The OPGGS (E) Regulations 2023 require that the petroleum activity is undertaken in an ecologically sustainable manner, and in accordance with an accepted EP.
Offshore Petroleum and Greenhouse Gas Storage Act 2006 (Section 571)	Under section 571(2) of the Offshore Petroleum and Greenhouse Gas Storage Act 2006, titleholders are required to have sufficient financial assurance to meet the costs, expenses and liabilities that may arise in connection with carrying out petroleum activities, particularly in the event of a major oil spill.
Ramsar wetland ecological character descriptions	.Ashmore Reef is the only Ramsar wetland within the EMBA.
Species Profile and Threats Databasehttps://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl	This database has been used in Section 3 and Appendix B as a source of information on the receptors. Information accessed has included species details such as habitat, movements, feeding, reproduction and taxonomic comments. Noting that profiles are not available for all species and ecological communities. Results of searching this database are found within Appendix D and Appendix E.
The Australian Petroleum Production and Exploration Association (APPEA) Code of Environmental Practice (APPEA 2008)	In Australia, the petroleum exploration and production industry operate within an industry code of practice developed by the Australian Petroleum Production and Exploration Association (APPEA); the APPEA Code of Environmental Practice (2008). This code provides guidelines for activities that are not formally regulated and have evolved from the collective knowledge and experience of the oil and gas industry, both nationally and internationally. The APPEA Code of Practice covers general environmental objectives for the industry, including planning and design, assessment of environmental risks, emergency response planning, training and inductions, auditing and consultation and communication. As an APPEA member, Jadestone Energy adheres to this Code of Environmental Practice when undertaking offshore activities.
United Nations Convention on the Law of the Sea (UNCLOS) (1982)	Part XII of the convention sets up a general legal framework for marine environment protection. The convention imposes obligations on State Parties to prevent, reduce and control marine pollution from the various major pollution sources, including pollution from land, from the atmosphere, from vessels and from dumping (Articles 207 to 212). Subsequent articles provide a regime for the enforcement of national marine pollution laws in the many different situations that can arise. Australia signed the agreement relating to the implementation of Part XI of the Convention in 1982, and UNCLOS in 1994.
United Nations Framework Convention on Climate Change (1992)	The objective of the convention is to stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous interference with the climate system. Australia ratified the convention in December 1992, and it came into force on 21 December 1993.
Vienna Convention on the Protection of the Ozone Layer (1985) and the Montreal Protocol; on Substances that Deplete the Ozone Layer (1987)	The Convention (ratified by Australia in 1987) and the Protocol (ratified in 1989) concern the phasing out of ozone depleting substances.

2. ACTIVITY DESCRIPTION

2.1 Location

The Montara field lies approximately 690 km (373 nautical miles) west of Darwin in a water depth of approximately 80 m (Figure 1-1) in Commonwealth waters of the Timor Sea (Table 2-1).

This EP encompasses monitoring activities for Sea Eagle-1 within Production Licence AC/L8 and Tahbilk-1 within production Licence AC/L7.

Table 2-1: Location of activities

Site	Sea Eagle-1	Tahbilk-1
Licence/Permit	AC/L8	AC/L7
Actual Water Depth	78	89
Wellhead height above sea floor (2020 ROV inspection)	Top of Debris Cap 3.1m above seabed	Top of Debris Cap 4.3m above seabed
Wellhead Details	Wellhead and Debris Cap Only	TGB + PGB in place
Debris at location	None noted	Small amount of debris next to the WH (possibly cement)
Location	12° 32' 45.22'' S 124° 26' 47.56'' E	12° 43’ 57.93” S 124° 30’ 14.32” E

The locations of key environmental sensitive receptors in closest proximity to the drilling activities Operational Area are provided in Table 2-2.

Table 2-2: Locations of key sensitive receptors in relation to the Montara Field

Sensitive receptor	**Approx. distance from the Operational Area (km)**
Goeree Shoal	28
Vulcan Shoal	28
Eugene McDermott Shoal	40
Barracouta Shoal	39
Cartier Island	106
Hibernia Reef	126
Ashmore Reef	149

2.2 Wells and Wellheads

The wellheads are comprised of steel with metal-to-metal ring gaskets. If debris was noted near each well location during the 2020 ROV inspection it has been noted and included in Table 2-1. The 14” SWIFT manifold pipeline with piggyback and umbilical line is approximately 50 m to the W-NW of the Sea-Eagle-1 wellhead. Another ROV survey was undertaken in 2021, images are provided in Figure 2-1 and Figure 2-2.

2.2.1 Re-use of the existing infrastructure

In the case of both wells, when they are re-entered for development, a series of well integrity checks and verifications will be performed. If these establish there is a well integrity issue, that issue will be rectified and if it is not possible to rectify, the ultimate outcome would be full well abandonment, subject to separate approvals. Both wells appear to be in good condition, are maintained and presently deemed to be suitable for re-use as described below.

Sea Eagle-1: Based on the last reported ROV survey, the well appears to be in good condition with a light coating of marine growth. There are no indications of corrosion or of trawler interaction or other artefacts that would suggest a compromised conductor. The well is presently connected to an anode skid to further protect the steel from any degradation. When the passive monitoring system is installed, this will provide an opportunity to view the internal condition of the wellhead, confirming overall condition which should provide adequate assurance that the well is development ready. At this point in time, there is no evidence that suggests the well is not development ready.

Tahbilk-1: Based on the last reported ROV survey, the well appears to be in reasonable condition. The guide base has experienced some corrosion however this is not structural or pressure containing and drawing an analogy that the guide base represents the wellhead would be incorrect. The survey noted that the wellhead connection appears to be secure and intact with some surface corrosion observed. The wellhead does have an anode skid connected to it as a means of mitigating any further corrosion. There are no indications of trawler interaction or other artefacts that would suggest a compromised conductor. When the passive monitoring system is installed, this will provide an opportunity to view the internal condition of the wellhead, confirming overall condition which should provide adequate assurance that the well is development ready. At this point in time, there is no evidence that suggests the well is not development ready.

2.2.2 Well Maintenance

Both Sea Eagle-1 and Tahbilk-1 wells are in a temporarily abandoned state. Jadestone maintains these wells through a combination of surveillance activities and connection of an anode bank. These remain as potential candidates for field development purposes, Jadestone is committed to ensuring they are maintained in good condition and repair.

Surveillance has historically been in the form of annual ROV inspection and with the acceptance of this EP, inclusion of a passive remote well monitoring system which is described in Section 2.4. This surveillance program ensures that the well's barriers can be monitored to the best extent possible, that no geological breaches have occurred and that the wellhead is not subsiding and in the very unlikely situation of a barrier degrading within the proposed EP validity timeframe that an early notification system would be activated.

Both wells have been connected to anode banks to prevent corrosion and ensure the well has adequate structural integrity to receive pressure control equipment or a subsea production tree and be used for field development purposes, or permanently abandoned. The cathodic protection loss rate is also monitored in the annual ROV surveys to ensure adequate protection is present.

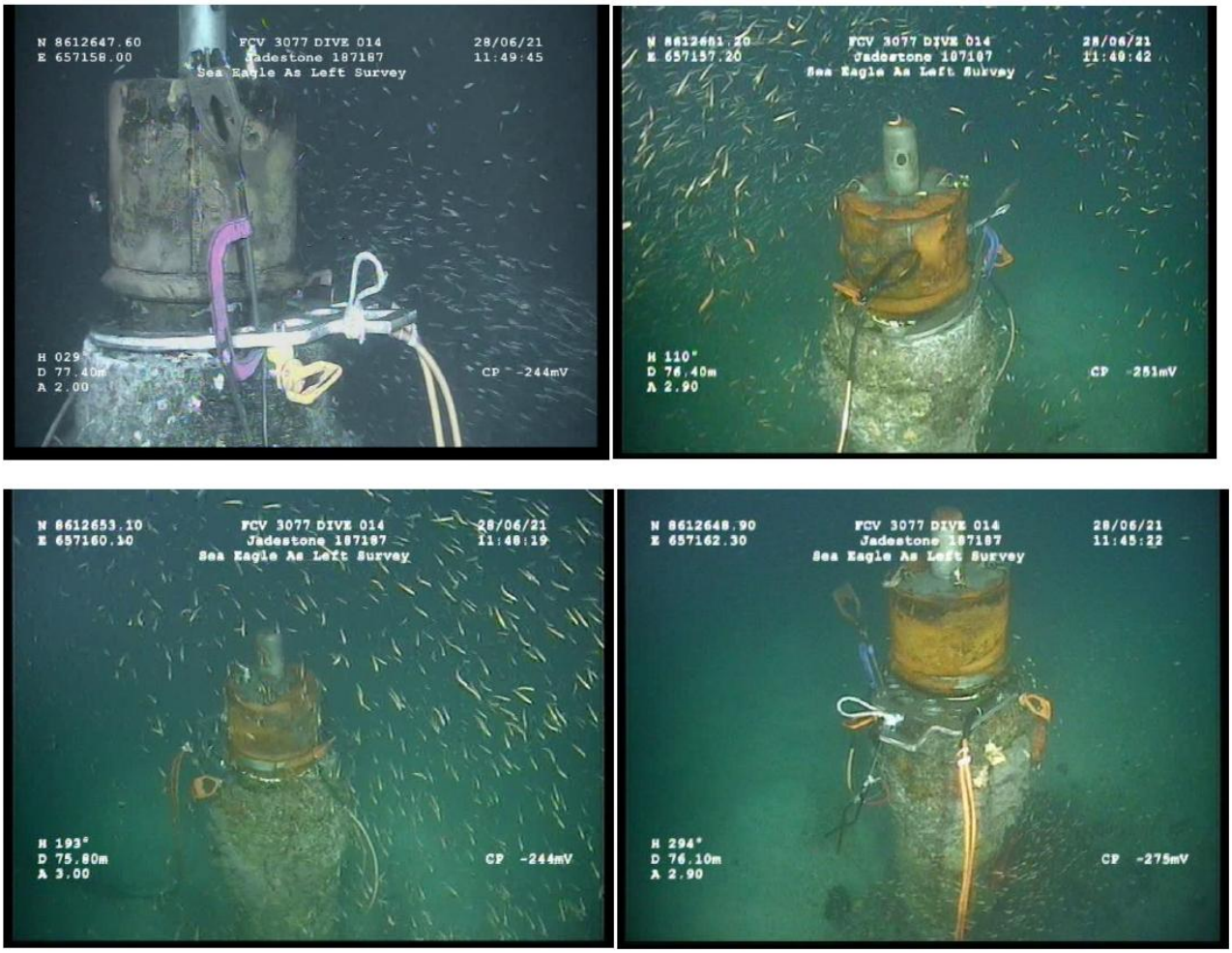


Figure 2-1: Images of Sea Eagle-1 wellhead including anode bank connection (Jadestone Energy, 2021a)



Figure 2-2: Images of Tahbilk-1 wellhead (Jadestone Energy, 2021b)

2.3 Annual ROV Survey

2.3.1 Annual ROV Survey objectives

An annual ROV survey is undertaken from a vessel at the Sea Eagle-1 and Tahbilk-1 wellheads. The objective of the survey is to verify that the wells barrier envelope is intact, that no damage has been caused by third parties, that well conditions have not changed (e.g. subsidence) and that anode corrosion banks are working as intended and that the well has suitable cathodic protection.

The surveys may be undertaken within the same vessel-based activity campaign at each wellhead or at different times depending on the last ROV inspections completed and vessel availability. The objectives of the annual ROV survey are:

- Locate and confirm co-ordinates of well head site centre point.
- General visual inspection of the of the well heads, well monitoring system and anodes.
- 4 photograph stills of the main cardinal points
- Measure approximate height of well head above seabed.
- Assess and record condition of corrosion cap and anodes.

- Conduct a 50m x 50m grid survey with the well head site at the centre noting any areas of debris or significant seabed disturbance.
- Visually check for any indications of mechanical damage (or change), or emission of fluids or gas that would indicate a barrier has failed.
- Verify that marine growth is not obstructing functional elements of the well monitoring system

2.4 Remote monitoring system

2.4.1 System Description

Well integrity will be monitored by a passive system called WellSentinel™. The system works by having a buoyed communication module held in place by a hydrocarbon sensitive release mechanism. A gathering system directs escaped hydrocarbon material onto a chamber where the release mechanism loses strength and releases the buoyant communication module. When the module reaches surface, it connects to a satellite network which triggers an alert in an operations monitoring centre (EngageSubsea) who then notify Jadestone.

A vessel inspection is then required as soon as practicable, to investigate the well conditions and collect the beacon. The system has been designed to be able to capture hydrocarbons within a 3m radius of the well. This is achieved by water currents sweeping hydrocarbons into the catchment areas using a Frond design.

System maintenance is defined by the battery life within the satellite communicator housed within the communication module. Battery life is 20 years. Jadestone plan to visually inspect the system during annual ROV inspection and verify that gathering ports and deployment areas are not fouled with marine growth. In addition, the system will have an ability to inject corrosion inhibitors into the wellhead monitoring cap to mitigate any metal degradation.

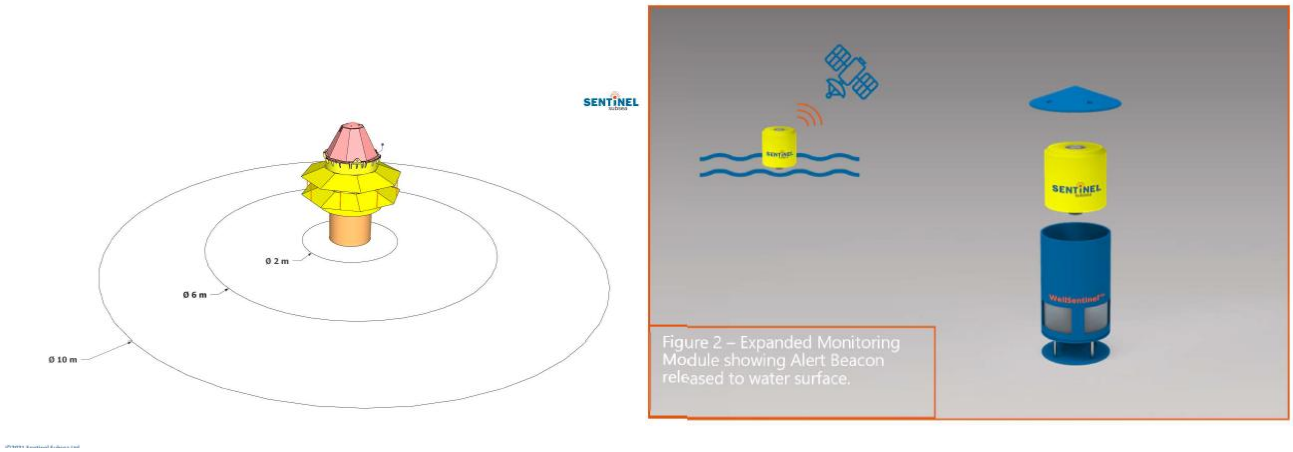


Figure 2-3: WellSentinel™ monitoring module

2.4.2 Monitoring system installation

The monitoring system at Sea Eagle-1 and Tahbilk-1 will be planned to be installed via an ROV Support Vessel (ROVSV) with subsea crane/lifting capability. A basic outline of the steps for installation is provided below:

- Vessel / ROV arrive on site and perform as found survey;
- Using an ROV, disconnect anode skid clamps from well;
- Remove existing corrosion cap (non-pressure retaining) with the vessel's crane;
- Clean and inspect wellhead connection and seal area with the ROV;
- Conduct pre-deployment checks;

- Install the WellSentinel™ system with the vessel's crane;
- Re-install anode skid clamps with the ROV;
- Conduct as left survey with the ROV;

The expected duration of this activity is 1 – 2 days at each well location. As the activity does not involve the removal or interaction of well barriers, the risk towards loss of containment is unchanged from the current well status. Removal of the existing non-pressure retaining corrosion cap and installation of a new WellSentinel™ cap does not change the spill risk. It should also be noted that as timing allows, this scope of work would be planned to be undertaken in conjunction with any planned ROV activities to minimise the environmental footprint of the activity.

2.4.3 Monitoring System equipment on Title

Upon completion of the well monitoring system, a tree cap will be removed from each well and replaced with a WellSentinel™ system tree cap. No other equipment is required and nothing is installed on the seabed.

2.4.4 Monitoring system inspection and maintenance

WellSentinel™ is a relatively new technology that has been developed in Scotland in partnership or collaboration with Robert Gordon University. Jadestone's understanding is the only maintenance schedule associated with the equipment is to change the satellite communicator batteries after 10 years of service. The 10 years extends beyond the validity of this EP. As part of the ongoing annual ROV survey, the system will be visually inspected and based on this outcome, it may be recovered to surface for maintenance. If it were recovered, may take approximately 3 days per well:

- Recover the WellSentinel™ to surface;
- Clean any marine growth of debris;
- Replace the satellite communication unit battery;
- Ensure hydrocarbon migration ports are clear of debris and clean;
- Replace the hydrocarbon contact release link mechanism;
- Refresh corrosion inhibitor within the wellhead;
- Re-install the WellSentinel™.

This activity may occur simultaneously from the same vessel undertaking annual ROV surveys, or separately.

2.5 Timing and Duration

2.5.1 In-field Observations

Until the monitoring system has been installed the Montara in-field logistics vessel or a helicopter will be routed past each wellhead to monitor for any indication of hydrocarbons at surface. This will take place at least once every 12-week period, will occur for less than 0.5 days and be included in BASSNET as a work instruction, where observations are noted.

2.5.2 Wellhead monitoring system installation

During installation of the wellhead surveillance monitoring system, one vessel will be on location for approximately 1-2 days working 24 hrs/day. This is expected to occur in 2022 once final assurance activities are complete and the equipment has been manufactured.

2.5.3 Annual ROV surveys

All wellheads are currently operating under an annual ROV inspection and monitoring regime.

Monitoring of the Sea Eagle-1 and Tahbilk-1 wells will be performed annually via ROV on the wellheads.

Annual ROV monitoring takes approximately 24 hours per well for a visual inspection using one vessel. It is anticipated that a vessel with a work class ROV will be required.

2.5.4 EP Validity

The EP validity period for the vessel-based activities, is five (5) years from EP acceptance. Once accepted, Jadestone Energy will be permitted to undertake the described activities.

2.6 Petroleum Safety Zone (PSZ)

There is currently no PSZ around any of the wellheads subject this EP, however the wellheads are marked on nautical charts and will continue to be going forward. During vessel-based activity in the field (e.g. monitoring system installation, annual monitoring, maintenance and data retrieval), a 500 m PSZ will be implemented around the vessel(s) and communicated via Notice to Mariners. A notice to mariners will not be issued for the vessel monitoring undertaken at least once every 12 weeks as the duration of the activity is <0.5 days and will be opportunistic in the field and will not require establishment of a PSZ.

A cautionary zone of 2.5 nautical miles (NM) radius is maintained around subsea structures including the wellheads. 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.

2.7 Operational Area

The Operational Area is defined as a 500m zone around each of the wellheads (Figure 1-1).

When the vessels are outside the Operational Area and remain within Australian waters (e.g. transiting to or from location or holding position outside the PSZ), they fall under the regulatory jurisdiction of the Australian Maritime Safety Authority (AMSA) under the *Navigation Act 2012*. Accordingly, this EP does not cover activities performed by the vessels while outside the Operational Area; however, this EP does cover oil spill response activities outside the Operational Area.

2.8 Hydrocarbons

Montara crude and marine diesel are described briefly below. More detail is provided in Section 7.5, and in the OPEP.

2.8.1 Montara crude oil

Montara crude is considered a Group II persistent hydrocarbon, as per the grouping classification presented by AMSA (2015). The oil is characterised by a low viscosity (3.164 cST @30°C cP) and a medium density of 830 kg/m^3 (API 39.0). Based on oil assay data available, approximately 33% (by volume) of the Montara crude would be considered persistent hydrocarbons under international oil property benchmarks.

2.8.2 Diesel

Marine diesel will be used to fuel the vessels used during this activity. Marine diesel is typically a mixture of volatile and persistent hydrocarbons with a low percentage of volatiles (6%) and with the greater proportion having moderate to very low volatility (89%). The aromatic content is approximately 3%. Viscosity is 4.0cP (at 25°C) and density of approximately 829.1kg/m^3 at 25°C.

2.9 Vessel and Helicopter Operations

2.9.1 Installation and assurance activities

To install the system, a Dive or ROV support vessel with a capable subsea crane will be required. Examples of suitable vessels are Sapura Jane, Skandi Singapore and Fugro Etive. In the event that any activities required for the 5-yearly assurance check during this EP validity, a similar vessel will be required. These

vessels are installation vessels with helidecks, offshore cranes and larger fuel tank capacities. Of these vessels, the largest is the Fugro Etive which is 93m long and ~5,000 tonnes. The largest fuel tank has a capacity of 241m^3.

2.9.2 Monitoring and Maintenance Vessels

Vessel based activities will be provided by a support vessel which will operate out of Darwin. One vessel will be required to undertake the planned monitoring and maintenance activities. The vessel will require a work class ROV and is likely to be similar to the Samson Explorer, a multi-purpose vessel that is 35 m long, 341 tonnes and has a total fuel capacity of 50m^3. The vessel needs to have suitable equipment for ROV deployment, and as the activity duration is 24 hours per well, a larger vessel is not necessary.

2.9.3 Helicopters

Helicopter support will be provided by Babcock. A shared Sikorsky S-92 helicopter and flight crew, along with shared technical back-up helicopter, will be based at Mungalalu–Truscott air base to support the activity as required. A helicopter may be used to conduct regular in-field observations of the surface waters above the wellhead to detect sheen which may be an indication of a loss of containment.

If required, routine helicopter operations would be during daylight hours and helicopter flight time between Mungalalu-Truscott and the Montara field is 70 minutes. Helicopter refuelling will not be undertaken on vessels.

2.10 Out of Scope

Activities that are not covered by this EP are:

- Nearby shipping activity, third-party offtake tankers, and Operational support activities outside the Operational Area;
- Anchoring of vessels (other than in an emergency);
- Support vessels associated with the Activity outside the Operational Area (where they will adhere to applicable maritime regulations, and Commonwealth and State environmental management obligations);
- Plug and abandonment activities on the wells;
- Re-entry of wells; and
- Decommissioning and removal of infrastructure - which is required to be undertaken in accordance with a separate approvals process under the OPGGS Act and Regulations.

3. EXISTING ENVIRONMENT

This section summarises environmental values and sensitivities, including physical, biological, socio-economic and cultural features in the marine and coastal environment that are relevant to the operational area and the EMBA.

A comprehensive description of the environmental values and sensitivities of the existing environment within the Operational Area and EMBA are provided in Appendix B. The Department of Climate Change, Energy, the Environment and Water (DCCEEW) Protected Matters Search Tool (PMST) was used to determine conservation values and sensitivities listed and protected under the EPBC Act include Matters of Environmental Significance (MNES). The results of these searches for the EMBA and Operational area are provided in Appendix D and E.

3.1 Definition of Areas

Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023, Regulation 21(2) requires the proponent to:

'(a) describe the existing environment that may be affected by the activity; and

(b) include details of the particular relevant values and sensitivities (if any) of that environment.'

To address this requirement, Jadestone has evaluated the values and sensitivities within two types of areas related to the activity:

- The Operational Area – the geographical area encompassing the environment that may be affected by the planned activities (Section 2); and
- The Environment that May Be Affected (EMBA) – the geographical area encompassing the environment that has the potential to be affected by the unplanned events associated with the activities described (Section 2) depending upon the level of exposure.

The spatial extent of the EMBA and location of the Operational Area is presented in Figure 3-1. The EMBA is based on the low-level exposure of hydrocarbons on and in, the water and represents the largest extent of an oil spill due to the worst-case scenario as per NOPSEMA Bulletin #1. This is further described in Appendix F and below:

- Surface hydrocarbons EMBA– hydrocarbons that are 'on' the water surface (>1 g/m2)
- Entrained hydrocarbons EMBA– hydrocarbon that is entrained 'in' the water (>10 ppb)
- Dissolved hydrocarbons EMBA– the dissolved component of hydrocarbon in' the water (>10 ppb), and
- Shoreline loading EMBA – hydrocarbons greater than 10 g/m^2.

The environmental values and sensitivities in the EMBA have been used to inform the assessment of the unplanned events in particular, loss of well control (LOWC), diesel spills, oil spill response planning and oil spill risk assessment. Full details of the environmental values and sensitivities in the EMBA is contained in Appendix B and E, and not discussed any further here.

Distances quoted throughout this report have been measured from the Montara Field. The Operational Area of this report includes the wellheads of Tahbilk and Sea Eagle which lie 4.4km and 18km respectively from the Montara wellhead platform in the Montara field.

3.2 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 Montara operations activity is located within the North West Marine Region (NWMR). The NWMR encompasses Commonwealth waters

from the Western Australia/ Northern Territory border in the north, to Kalbarri in the south. The main physical features and values of the NWMR are:

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 149 km and 106 km north-west, respectively, from the Montara field;

A number of key ecological features (KEFs) have been identified in the region (Section 3.3.4). 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; and

Other priority areas in the NWMR include Rowley Shoals and Ningaloo Reef. However, these areas are at least 700 km from the Operational Area.

Within the NWMR the Operational Area lies within the Northwest Shelf Transition provincial bioregion, Figure 3-1. The Existing Environment (Appendix B) summarises the characteristics of these bioregions within the EMBA.

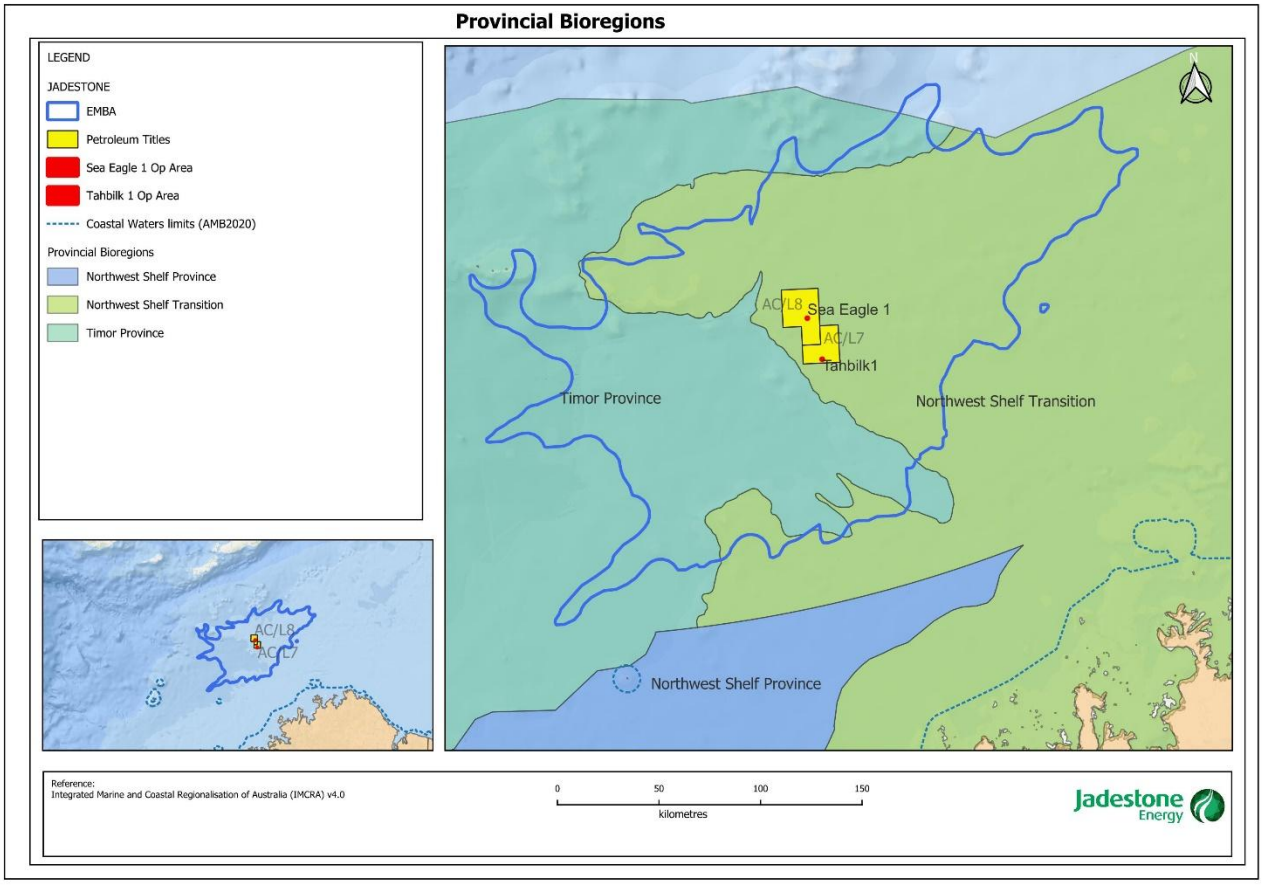


Figure 3-1: Provincial Bioregions relevant to the Operational Area and EMBA

3.3 Conservation Values and Sensitivities

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 Operational Area are summarised in Table 3-1. The full EPBC Act Protected Matters report is

provided in Appendix D. Additional information on these MNES is provided in subsequent sections of this chapter and described in detail in *Existing Environment* (Appendix B).

A summary of the conservation values and sensitivities that occurs in the EMBA is provided in Table 3-2. Additional information on these MNES is provided in the *Existing Environment* (Appendix B)

Table 3-1: Summary of conservation values and sensitivities in the Operational Area

MNES and Other Matter Protected under EPBC Act	Operational Area	Description
Commonwealth Marine Area	✓ (1)	See Section 3.3.2
Listed Threatened Species	✓ (21)	See Section 3.3.1 See Appendix B
Listed Migratory Species	✓ (35)	See Section 3.3.1 See Appendix B
Listed Marine Species	✓ (61)	See Section 3.3.3.1 See Appendix D
Whales and other cetaceans (many of which are also Listed Threatened or Migratory Species)	✓ (13)	See Section 3.3.3.2 See Appendix D

Table 3-2: Summary of conservation values and sensitivities in the EMBA

MNES Protected under EPBC Act	EMBA	Description
Wetlands of International Importance (Ramsar)	✓ (1)	See Appendix B Ashmore Reef
Commonwealth Marine Areas	✓	See Appendix B
Listed Threatened Species	✓ (30)	See Section 3.3.1 See Appendix B
Listed Migratory Species	✓ (51)	See Section 3.3.1 See Appendix B
Commonwealth Heritage Places	✓ (1)	See Appendix B Ashmore Reef
Listed Marine Species	✓ (85)	See Appendix **Error! Reference source not found.**E
Whales and other cetaceans (many of which are also Listed Threatened or Migratory Species)	✓ (26)	See Appendix E
Australian Marine Parks	✓ (2)	See Section 3.3.2 Ashmore Reef Cartier Island
Habitat critical to the survival of marine turtles	✓ (1)	See Section 3.3.1.2
Key Ecological Features	✓ (4)	See Section 3.3.4
Biologically Important Areas	✓ (18)	See Section 3.3.1

3.3.1 Protected Species

3.3.1.1 Fish, Sharks and Rays

The Operational Area PMST report (Appendix D) identified:

- Four are threatened/ migratory;
- Two are threatened only; and
- Seven are migratory only.

A description of fish, sharks and rays is provided in Appendix B.

Numerous marine species occur in the region and have wide distributions that are associated with feeding and migration patterns linked to reproductive cycles. While the distance offshore, depth and lack of suitable foraging benthic habitat may preclude a number of these species, many are likely to occur within the Operational Area in transit to and from key mating and foraging grounds. Pelagic foragers are also likely to be feeding within the area.

The Operational Area intersects with the Whale Shark foraging BIA (Figure 3-2).

The EMBA PMST report identified the same species as those found in the Operational Area.

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 3-3: Fish, Sharks and Rays EPBC listed species

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
Whale Shark (Rhincodon typus)	V, M	Foraging, feeding or related behaviour known to occur within area	Foraging, feeding or related behaviour known to occur within area	✓	✓ Conservation advice *Rhincodon typus* whale shark (Threatened Species Scientific Committee, 2015d)	No	No
Great White Shark (Carcharodon carcharias)	V, M	Species or species habitat may occur within area	Species or species habitat may occur within area	No	No	✓ Recovery plan for the white shark (*Carcharodon carcharias*) (DSEWPaC 2013a)	No
Northern River Shark (Glyphis garricki)	E	Species or species habitat may occur within area	Species or species habitat may occur within area	No	✓ Approved Conservation Advice for *Glyphis garricki* (northern river shark) (DoE, 2014)	✓ Sawfish and river shark multispecies recovery plan (Commonwealth of Australia, 2015b)	No
Green Sawfish (Pristis zijsron)	V, M	Species or species habitat known to occur within area	Species or species habitat known to occur within area	No	✓ Approved conservation advice for *Pristis zijsron* green sawfish	✓ Sawfish and river shark multispecies recovery plan (Commonwealth of Australia, 2015b)	No

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
					(Threatened Species Committee, 2008b)		
Freshwater/ Largetooth sawfish (Pristis pristis)	E,M	Species or species habitat may occur within area	Species or species habitat may occur within area	No	✓ Approved Conservation Advice for *Pristis pristis* (largetooth sawfish) (DoE 2025b)	✓ Sawfish and river shark multispecies recovery plan (Commonwealth of Australia, 2015b)	No
Narrow/Knifetooth Sawfish (Anoxypristis caspidata)	M	Species or species habitat may occur within area	Species or species habitat may occur within area	No	No	No	No
Oceanic Whitetip Shark (Carcharhinus longimanus)	M	Species or species habitat may occur within area	Species or species habitat may occur within area	No	No	No	No
Shortfin Mako (Isurus oxyrinchus)	M	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area	No	No	No	No
Longfin Mako (Isurus paucus)	M	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area	No	No	No	No

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
Giant Manta Ray (Manta birostris)	M	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area	No	No	No	No
Reef Manta Ray (Manta alfredi)	M	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area	No	No	No	No
Scalloped hammerhead (Sphyrna lewini)	CD	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area	No	No	No	No
Grey nurse shark (Carcharias taurus)	M	Species or species habitat may occur within area	Species or species habitat may occur within area	No	No	Yes	No

CD = Conservation Dependent; CE = Critically Endangered; E = Endangered; V = Vulnerable; M = Migratory

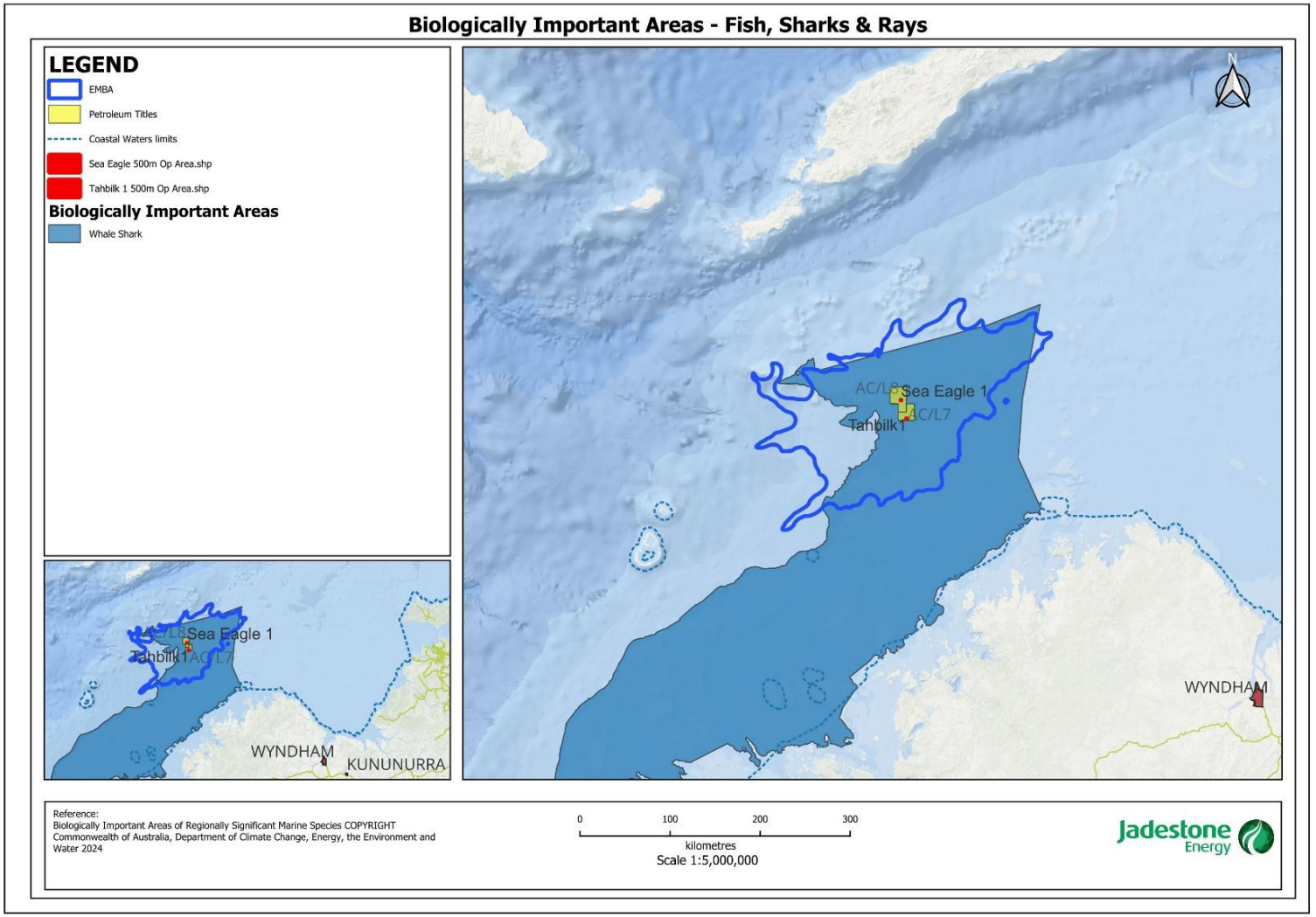


Figure 3-2: Biologically important areas for fish, sharks and rays

3.3.1.2 Marine Reptiles

The Operational Area PMST report (Appendix D) identified:

- Six threatened/ migratory
- The Operational area does not intersect with any BIAs for marine reptiles.

The EMBA PMST report (Appendix E) identified a total of nine threatened and/or migratory of which:

- Six are threatened and migratory
- Three are threatened only.

The EMBA intersects with BIAs for green and hawksbill turtles (Figure 3-3) and habitat critical for the survival of green turtles (Figure 3-4).

A summary of marine reptiles is provided in Table 3-4and further described in Existing Environment (Appendix B).

Table 3-4: Marine Reptiles EPBC listed species

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
Loggerhead Turtle (Caretta caretta)	E, M	Foraging, feeding or related behaviour likely to occur within area	Foraging, feeding or related behaviour known to occur within area	No	No	✓ Recovery plan for marine turtles in Australia (DoEE 2017)	✓ Marine debris
Green Turtle (Chelonia mydas)	V, M	Foraging, feeding or related behaviour likely to occur within area	Foraging, feeding or related behaviour known to occur within area	No	No	✓ Recovery plan for marine turtles in Australia (DoEE 2017)	✓ Marine debris
Leatherback Turtle (Dermochelys coriacea)	E, M	Foraging, feeding or related behaviour likely to occur within area	Foraging, feeding or related behaviour likely to occur within area	No	✓ Approved conservation advice for *Dermochelys coriacea* (Leatherback Turtle) (Threatened Species Scientific Committee, 2008a)	✓ Recovery plan for marine turtles in Australia (DoEE 2017)	✓ Marine debris
Hawksbill Turtle (Eretmochelys imbricata)	V, M	Foraging, feeding or related behaviour known to occur within area	Foraging, feeding or related behaviour likely to occur within area	No	No	✓ Recovery plan for marine turtles in Australia (DoEE 2017)	✓ Marine debris
Olive Ridley Turtle	E, M	Foraging, feeding or related behaviour	Species or species habitat known to occur within area	No	No	✓	✓ Marine debris

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
(Lepidochelys olivacea)		known to occur within area				Recovery plan for marine turtles in Australia (DoEE 2017)	
Flatback Turtle (Natator depressus)	V, M	Species or species habitat known to occur within area	Foraging, feeding or related behaviour known to occur within area	No	No	✓ Recovery plan for marine turtles in Australia (DoEE 2017)	✓ Marine debris
Leaf-scaled sea snake (Aipysurus foliosquama)	CE	x	Species or species habitat may occur within area	No	✓ Approved Conservation Advice for *Aipysurus foliosquama* (Leaf-scaled Sea Snake) (DSEWPaC, 2011a)	No	No
Short-nosed sea snake (Aipysurus apraefrontalis)	CE	x	Species or species habitat known to occur within area	No	✓ Approved Conservation Advice for *Aipysurus apraefrontalis* (Short-nosed Sea Snake) (DSEWPaC, 2011b)	No	No
Dusky sea snake (Aipysurus fuscus)	E	x	Species or species habitat known to occur within area	No	✓ Conservation Advice for *Aipysurus fuscus* (dusky sea snake) (DCCEEW, 2024a)	No	No

CE = Critically Endangered; E = Endangered; V = Vulnerable; M = Migratory

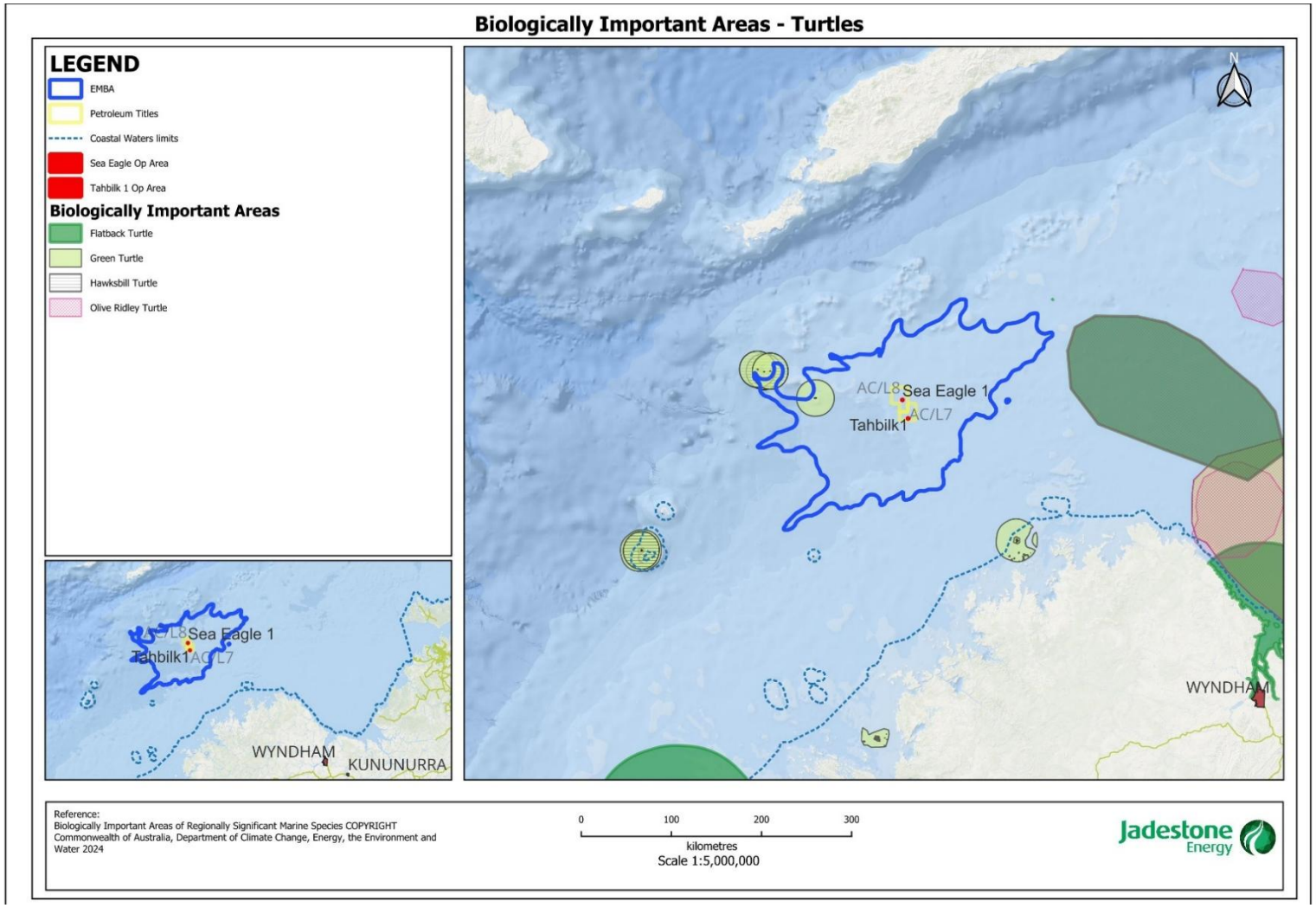


Figure 3-3: Biologically important areas for marine reptiles

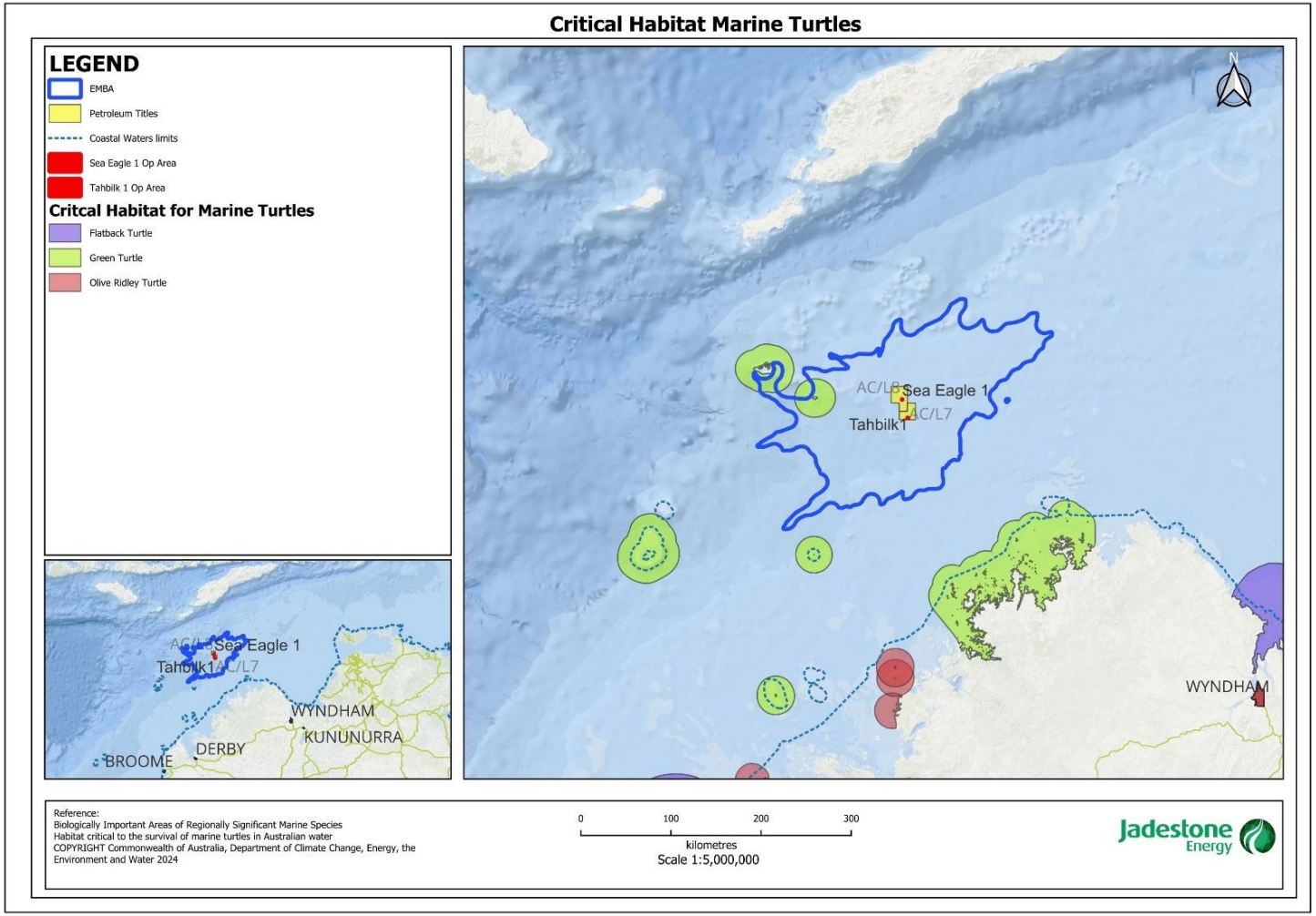


Figure 3-4: Habitat critical for the survival of marine turtles

3.3.1.3 Marine Mammals

The Operational Area PMST report (Appendix D) identified:

- Three threatened/ migratory;
- Four migratory; and
- The operational area does not intersect with any BIAs for marine mammals.

The EMBA PMST report (Appendix E) identified a total of ten threatened and/or migratory of which:

- Three are threatened and migratory; and
- Seven are migratory only.

The EMBA intersects with the BIAs for pygmy blue whale and dugong (Figure 3-5 and Figure 3-6). A summary of marine mammals is provided in Table 3-5 and further described in Existing Environment (Appendix B).

Table 3-5: Marine Mammal EPBC listed species

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
Humpback Whale (Megaptera novaeangliae)	M	Species or species habitat likely to occur within area	Species or species habitat may occur within area	No	No	No	✓ Marine debris
Blue whale (Balaenoptera musculus) Including Pygmy Blue Whale	E, M	Species or species habitat likely to occur within area	Migration route known to occur within area	No	No	✓ Conservation management plan for the blue whale: A recovery plan under the EPBC Act 1999 2015-2025 (Commonwealth of Australia, 2015a)	✓ Marine debris
Sei Whale (Balaenoptera borealis)	V, M	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area	No	✓ Conservation advice *Balaenoptera borealis* sei whale (Threatened Species Scientific Committee, 2015b)	No	✓ Marine debris
Fin Whale (Balaenoptera physalus)	V, M	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area	No	✓ Conservation advice *Balaenoptera physalus* fin whale (Threatened	No	✓ Marine debris

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
					Species Scientific Committee, 2015c)		
Bryde's Whale (Balaenoptera edeni)	M	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area	No	No	No	✓ Marine debris
Orca, Killer Whale (Orcinus orca)	M	Species or species habitat may occur within area	Species or species habitat may occur within area	No	No	No	✓ Marine debris
Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) (Tursiops aduncus)	M	Species or species habitat may occur within area	Species or species habitat may occur within area	No	No	No	No
Dugong (Dugong dugon)	M	x	Foraging, feeding or related behaviour known to occur within area	No	No	No	✓ Marine debris
Omura's Whale (Balaenoptera omurai)	M	x	Species or species habitat likely to occur within area	No	No	No	No
Sperm Whale (Physeter macrocephalus)	M	x	Species or species habitat may occur within area	No	No	No	No

CE = Critically Endangered; E = Endangered; V = Vulnerable; M = Migratory

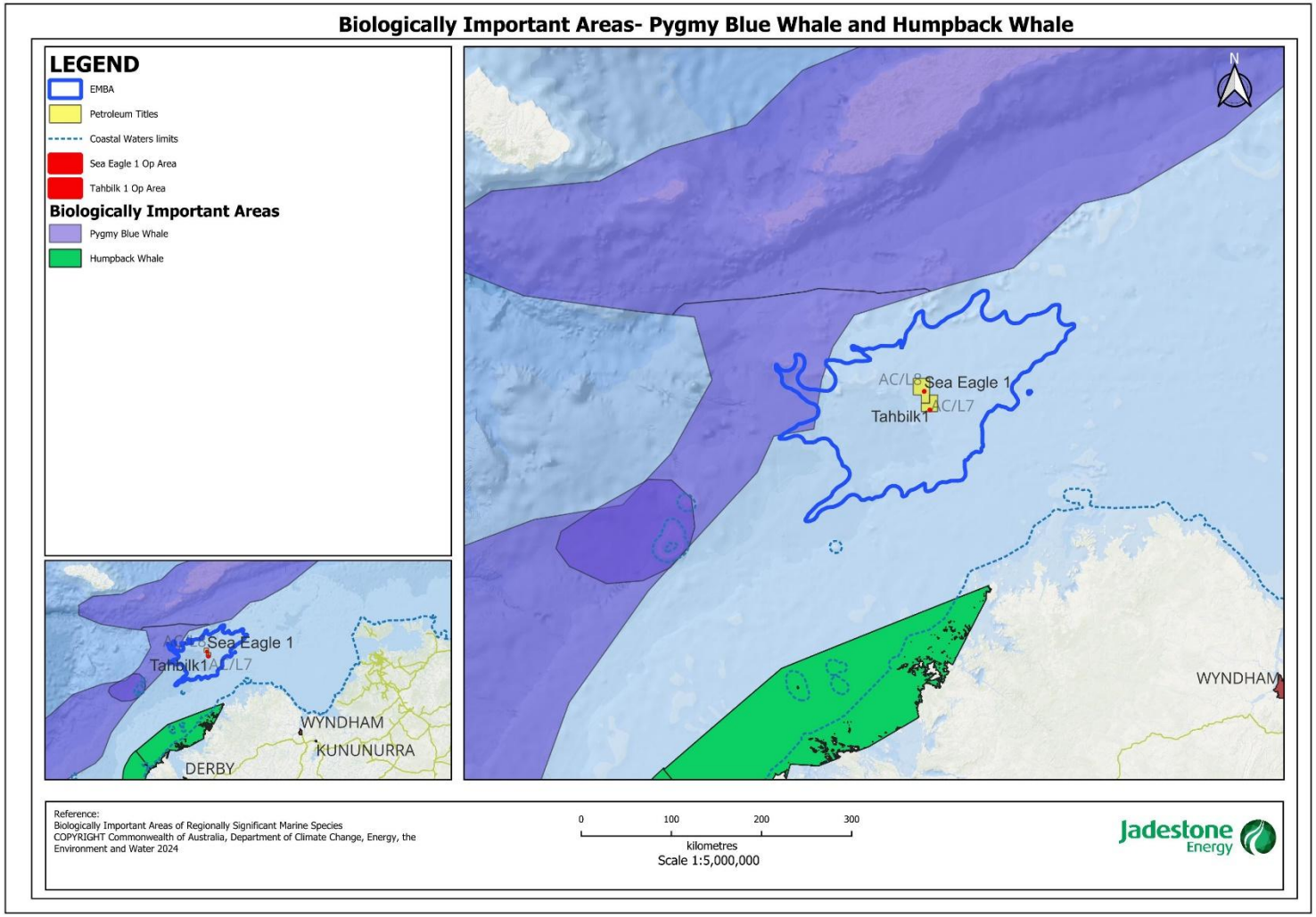


Figure 3-5: Biologically important areas for blue whales and humpback whales

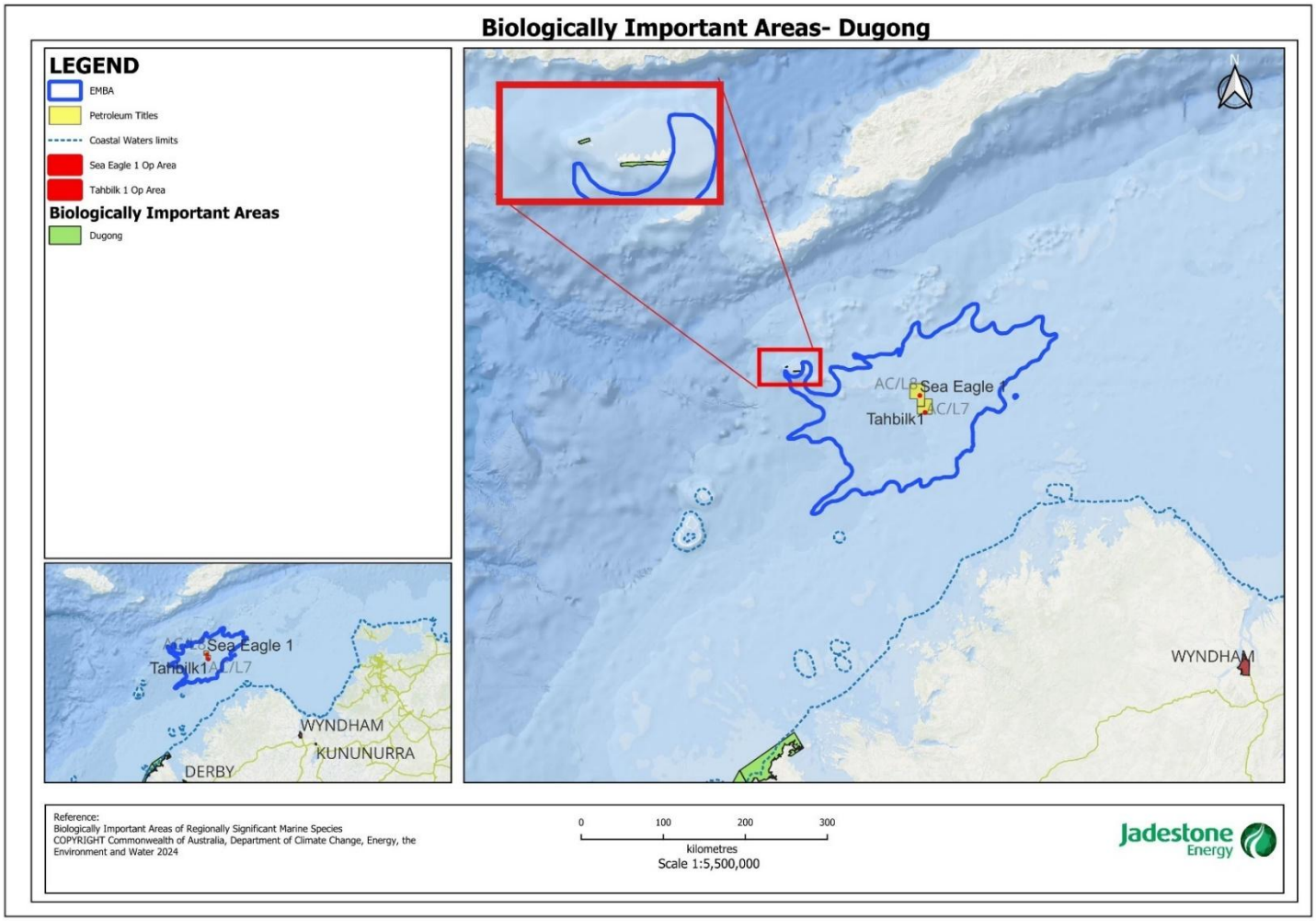


Figure 3-6: Biologically important areas for dugongs

3.3.1.4 Avifauna

The Operational Area PMST report (Appendix D) identified:

- Four are threatened and migratory;
- Two are threatened only; and
- Seven are migratory only.

The Operational area does not intersect with any BIAs for avifauna. The nearest breeding/roosting site to the Operational Area is Cartier Island approximately 106 km away.

The EMBA PMST report (Appendix E) identified a total of forty seven threatened and/or migratory of which:

- Seven are threatened and migratory;
- Seventeen are migratory only; and
- Five are threatened only.

A summary of avifauna species is provided in Table 3-6 and further described in Existing Environment (Appendix B). Several species listed in the PMST Report could be considered as potentially terrestrial and unlikely to be affected by planned or unplanned activities.

The EMBA overlaps breeding BIAs for wedge tailed shearwaters, lesser and greater frigatebirds, white tailed tropicbird, roseate, little and lesser crested terns and brown and red-footed boobies. It also overlaps a resting BIA for Little Terns (Figure 3-7 and Figure 3-8). The nearest breeding/roosting site to the Operational Area is Cartier Island approximately 93 km away.

Table 3-6: Avifauna Listed EPBC species

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
Australian Lesser Noddy (Anous tenuirostris melanops)	V	Foraging, feeding or related behaviour known to occur within area	Foraging, feeding or related behaviour known to occur within area	No	✓ Conservation advice *Anous tenuirostris melanops* Australian lesser noddy (Threatened Species Scientific Committee, 2015e)	No	Threat abatement plan for predation by feral cats. (DCCEEW, 2024)
Sharp-tailed Sandpiper (Calidris acuminata)	V, M	Species or species habitat may occur within area	Species or species habitat likely to occur within area	No	✓ Conservation Advice for *Calidris acuminata* (sharp-tailed sandpiper) (DCCEEW, 2024d) Wildlife conservation plan for migratory shorebirds (Commonwealth of Australia, 2015c)	No	Threat abatement plan for predation by feral cats (DCCEEW, 2024)
Red Knot (Calidris canutus)	V, M	Species or species habitat may occur within area	Species or species habitat known to occur within area	No	✓ Conservation advice for *Calidris canutus* (red knot) (DCCEEW, 2024b) Wildlife conservation plan for migratory shorebirds (Commonwealth of Australia, 2015c)	No	Threat abatement plan for predation by feral cats. (DCCEEW, 2024)

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
Curlew Sandpiper (Calidris ferruginea)	CE, M	Species or species habitat may occur within area	Species or species habitat known to occur within area	No	✓ Conservation advice for *Calidris ferruginea* (curlew sandpiper) (DCCEEW, 2023a)	No	No
Eastern Curlew (Numenius madagascariensis)	CE, M	Species or species habitat may occur within area	Species or species habitat known to occur within area	No	✓ Conservation advice for *Numenius madagascariensis* (far eastern curlew) (DCCEEW, 2023b)	No	No
Common Sandpiper (Actitis hypoleucos)	M	Species or species habitat may occur within area	Species or species habitat known to occur within area	No	Wildlife conservation plan for migratory shorebirds (Commonwealth of Australia, 2015c)	No	No
Common Noddy (Anous stolidus)	M	Foraging, feeding or related behaviour known to occur within area	Species or species habitat may occur within area	No	Wildlife Conservation Plan for Seabirds (DAWE, 2020)	No	Threat abatement plan for predation by feral cats. (DCCEEW, 2024)

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
Pectoral Sandpiper (Calidris melanotos)	M	Species or species habitat may occur within area	Species or species habitat may occur within area	No	Wildlife conservation plan for migratory shorebirds (Commonwealth of Australia, 2015c)	No	No
Streaked Shearwater (Calonectris leucomelas)	M	Species or species habitat known to occur within area	Species or species habitat known to occur within area	No	Wildlife Conservation Plan for Seabirds (DAWE, 2020)	No	Threat abatement plan for predation by feral cats. (DCCEEW, 2024)
Lesser Frigatebird (Fregata ariel)	M	Species or species habitat may occur within area	Breeding known to occur within area	No	Wildlife Conservation Plan for Seabirds (DAWE, 2020)	No	Threat abatement plan for predation by feral cats (DCCEEW, 2024)
Great Frigatebird (Fregata minor)	M	Species or species habitat may occur within area	Species or species habitat known to occur within area	No	Wildlife Conservation Plan for Seabirds (DAWE, 2020)	No	No

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
Greater Sand Plover (Charadrius leschenaultia)	V, M	x	Species or species habitat likely to occur within area	No	✓ Conservation Advice for *Charadrius leschenaultii* (greater sand plover) (DCCEEW, 2023d) Wildlife conservation plan for migratory shorebirds (Commonwealth of Australia, 2015c)	No	No
Asian Dowitcher (Limnodromus semipalmatus)	V, M	x	Species or species habitat may occur within area	No	✓ Conservation Advice for *Limnodromus semipalmatus* (Asian dowitcher) (DCCEEW, 2024f) Wildlife conservation plan for migratory shorebirds (Commonwealth of Australia, 2015c)	No	No
Northern Siberian Bar-tailed Godwit (Limosa lapponica menzbieri)	E	x	Species or species habitat known to occur within area	No	✓ Conservation Advice for *Limosa lapponica menzbieri* (Yakutian bar-tailed Godwit) (DCCEEW, 2024e)	No	No
Abbott's Booby (Papasula abbotti)	E	x	Species or species	No	✓	No	No

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
			habitat may occur within area		Conservation Advice for the Abbott's Booby - *Papasula abbotti* (TSSC, 2020)		
Christmas Island White-tailed Tropicbird (Phaethon lepturus fulvus)	E	x	Foraging, feeding or related behaviour likely to occur within area	No	✓ Conservation Advice *Phaethon lepturus fulvus* white-tailed tropicbird (Christmas Island) (DoE, 2014b)	No	Threat abatement plan for predation by feral cats (DCCEEW, 2024)
Red-tailed Tropicbird (Indian Ocean) (Phaethon rubricauda westralis)	E	x	Breeding known to occur within area	No	✓ Conservation Advice for *Phaethon rubricauda westralis* (Indian Ocean red-tailed tropicbird) (DCCEEW, 2023c)	No	Threat abatement plan for predation by feral cats (DCCEEW, 2024)
Little Tern (Sternula albifrons)	V, M	x	Congregation or aggregation known to occur within area	No	✓ Conservation Advice for *Sternula albifrons* (little tern) (DCCEEW, 2025) Wildlife Conservation Plan for Seabirds (DAWE, 2020)	No	Threat abatement plan for predation by feral cats (DCCEEW, 2024)
Oriental Reed-warbler (Acrocephalus orientalis)	M	x	Species or species habitat known to	No	No	No	Threat abatement plan for predation by feral cats (DCCEEW, 2024)

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
			occur within area				
Red-rumped Swallow (Cecropis daurica)	M	x	Species or species habitat may occur within area	No	No	No	No
Barn Swallow (Hirundo rustica)	M	x	Species or species habitat likely to occur within area	No	No	No	No
Bar-tailed Godwit (Limosa lapponica)	M	x	Species or species habitat known to occur within area	No	Wildlife conservation plan for migratory shorebirds (Commonwealth of Australia, 2015c)	No	No
Grey Wagtail (Motacilla cinerea)	M	x	Species or species habitat may occur within area	No	No	No	No
Yellow Wagtail (Motacilla flava)	M	x	Species or species habitat likely	No	No	No	No

Common Name (Scientific Name)	EPBC Act Status	Type of presence		BIA within Operational Area	Management		
		Operational Area	EMBA		Conservation advice	Recovery Plan	Threat Abatement Plan
			to occur within area				
White-tailed Tropicbird (Phaethon lepturus)	M	x	Breeding known to occur within area	No	Wildlife Conservation Plan for Seabirds (DAWE, 2020)	No	Threat abatement plan for predation by feral cats (DCCEEW, 2024)
Red-tailed Tropicbird (Phaethon rubricauda)	M	x	Breeding known to occur within area	No	Wildlife Conservation Plan for Seabirds (DAWE, 2020)	No	Threat abatement plan for predation by feral cats (DCCEEW, 2024)
Roseate Tern (Sterna dougallii)	M	x	Breeding likely to occur within area	No	Wildlife Conservation Plan for Seabirds (DAWE, 2020)	No	No
Brown Booby (Sula leucogaster)	M	x	Breeding known to occur within area	No	Wildlife Conservation Plan for Seabirds (DAWE, 2020)	No	✓ Marine debris
Red-footed Booby (Sula sula)	M	x	Breeding known to occur within area	No	Wildlife Conservation Plan for Seabirds (DAWE, 2020)	No	No

CE = Critically Endangered; E = Endangered; V = Vulnerable; M = Migratory

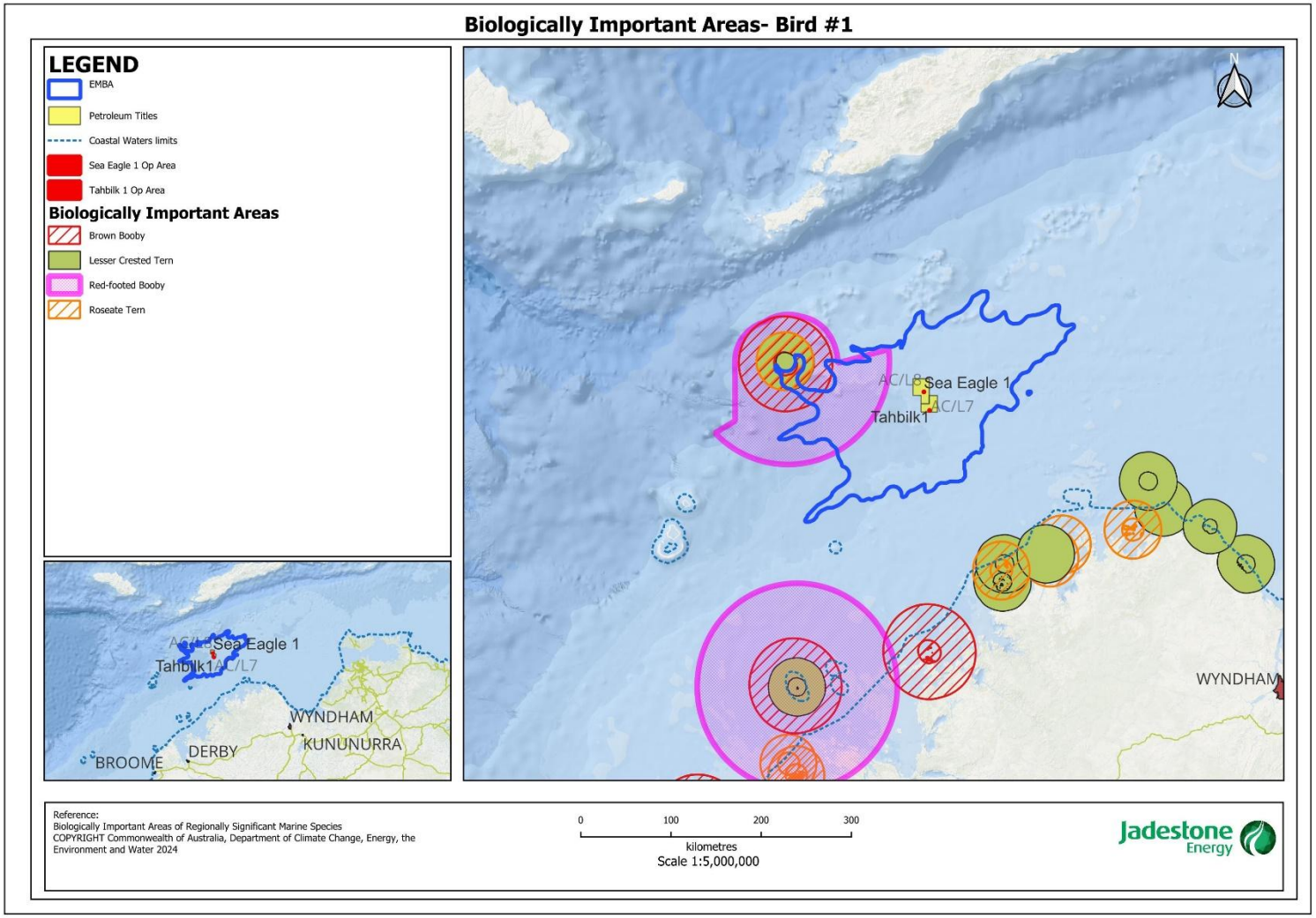


Figure 3-7: Biologically important areas for brown booby, lesser crested tern, red-footed booby, and roseate tern

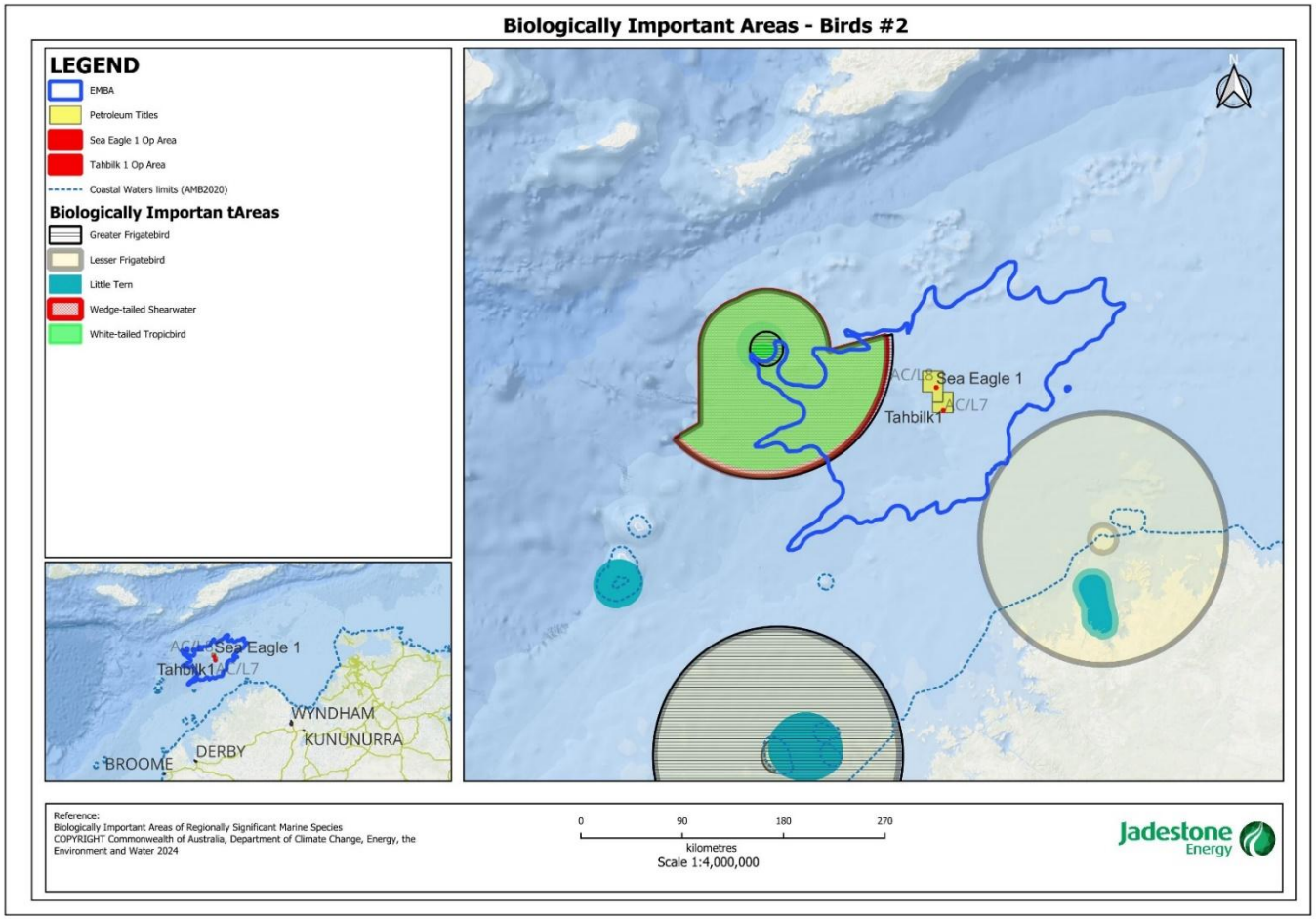


Figure 3-8: Biologically important areas for greater frigatebird, lesser frigatebird, little tern, wedge-tailed shearwater and white-tailed tropicbird

3.3.2 Protected and Significant Areas

3.3.2.1 Matters of National Environmental Significance (MNES)

There are no World Heritage Properties or National Heritage places or Wetlands of International Importance (Ramsar wetlands) within the Operational Area.

Commonwealth Marine Areas

The Operational Area is within the Exclusive Economic Zone (EEZ) and Territorial Sea which is a Commonwealth Marine Area. 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.

3.3.3 Others matters protected by the EPBC Act

There are no Commonwealth Lands or Heritage Places, Critical Habitats, Commonwealth Reserves Terrestrial or Habitat Critical to the Survival of Marine Turtles in the Operational Area.

3.3.3.1 Listed marine species

A total of 61 Listed Marine Species are either likely to, or may, occur within the Operational Area, including 12 bird species, 30 fish species, and 19 reptile species. 12 of these species are also Listed Threatened Species.

3.3.3.2 Whales and other cetaceans

The Protected Matters search determined that 13 cetacean species or their habitat may occur within the Operational Area. These species are discussed in Appendix B. Whales and cetaceans occurring in the EMBA are discussed in Appendix B.

3.3.4 Key Ecological Features (KEFs)

Key ecological features (KEFs) are elements of the Commonwealth marine environment that are considered to be of regional importance for either a region's biodiversity or its ecosystem function and integrity. The Operational Area does not include any KEFs. The nearest of the spatially defined KEFs is the Carbonate bank and terrace system of the Sahul Shelf at approximately 46 km from the Operational Area at its closest point.

3.4 Social Values

The socioeconomic environmental values and sensitivities (cultural and socio-economic) within the Operational Area, which also include all relevant Matters of National Environmental Significance (MNES) protected under the EPBC Act, are summarised in Table 3-7.

Table 3-7: Socio-economic Values and Sensitivities within the Operational Area

Value/ Sensitivity	Description	Operational Area Presence
World Heritage Properties	Sites accepted to the World Heritage listing are only inscribed if considered to represent the best examples of the world's cultural and natural heritage. There are no World Heritage properties that intersect with the Operational Area.	None
Shipping	The Operational Area is not located on a major international shipping route. Heavy vessels following the charted Osborn Passage will pass through both permits to the north of the Montara Field floating production storage and offtake (facility) (FPSO). Support vessels servicing	✓

	the nearby infrastructure do pass through the Operational Area (AMSA, 2014) (refer Figure 3-9).	
Commercial Fishing	Based on the assessment of fisheries (Section 4.2.1, Appendix B) the following Commonwealth and State fisheries are permitted to, and it is feasible that they may, operate in the Operational Area (based on last 5 years of catch data): • Western Tuna and Billfish Fishery • Northern Demersal Scalefish Managed Fishery The spawning grounds for the Southern Bluefin tuna fishery occur off the northwest of WA.	Minimal effort
Recreational Fishing	Remoteness of Operational Area limits recreational fishing usage.	Limited
Traditional Fishing	Traditional Australian indigenous fishing activities are generally concentrated within 3 nm of the NT/WA coastline (DPIF 2015). Indonesian/Timor Leste indigenous fishing is concentrated in the vicinity of Sahul Bank, Echo Shoals and MoU Box and boats may pass through the Operational Area to reach these fishing grounds.	Transit
Defence	No declared defence areas in Operational Area.	–
Oil and Gas	Various petroleum exploration and production activities have been undertaken within the Timor Sea, including some within close proximity of the Operational Area.	Adjacent
Tourism	No regular tourism activity occurs in the Operational Area due to its remoteness.	–
Cultural Heritage	No known sites of shipwrecks or Aboriginal Heritage significance within the Operational Area.	–

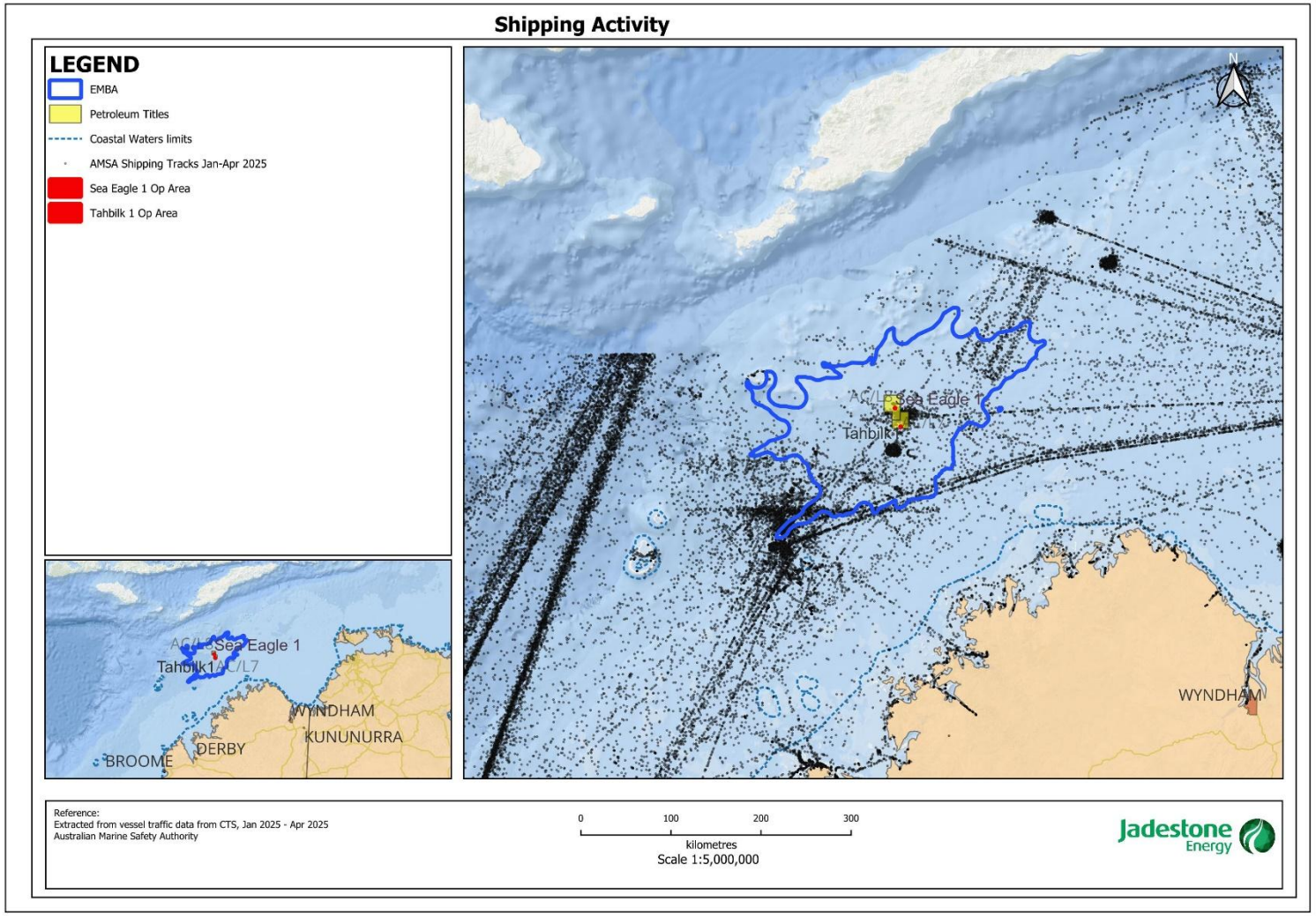


Figure 3-9: Shipping activity within the region

4. CONSULTATION OF RELEVANT PERSONS

4.1 Consultation background

Jadestone Energy (Jadestone) has a Stakeholder Management Plan (SMP) (JS-70-PR-I-00034) that guides its stakeholder consultation responsibilities and activities for its Australian operations – Montara and Stag.

The SMP has been written to assist in consistently engaging with Relevant Persons across its approvals. This provides a strategic and systemic approach to Relevant Person consultation, aiming to foster an environment where ongoing, open dialogue and two-way communication is undertaken to build positive relationships. This approach is in line with the International Association for Public Participation (IAP2) spectrum.

The title and operatorship of the Montara Operations was transferred to Jadestone from the previous operator, PTTEP Australasia (Ashmore Cartier) Pty Ltd, on 6 August 2019. Montara is an existing facility that has been in operation since 1998. The previous operator had a Consultation Strategy that incorporated providing regular updates of Montara related activities to Relevant Persons. As a result, the identified Relevant Persons have been informed and consulted on a regular basis for some time.

Relevant Persons were originally identified and classified according to criteria outlined in a consultation plan based on their interest / activity / function for the operations activity in 2016. A review of the originally identified and classified Relevant Persons was undertaken in June 2020 when the operations activity changed from having a floating storage and offtake vessel in the field, to a third-party tanker. Relevant Persons were again identified as part of previous drilling scopes and as part of the Montara Operations 5-year EP revision in 2021-2024. The list of Relevant Persons has been further refined for this Sea Eagle and Tahbilk VBA EP.

The SMP has been further updated for the purpose of complying with the decision of the Federal Court in *Tipakalippa v National Offshore Petroleum Safety and Environment Management Authority (No 2)* (the Decision), the outcome of the subsequent unsuccessful appeal outcome against the Decision (the Appeal), and the NOPSEMA Guideline *Consultation in the course of preparing an environment plan* (N-04750-GL2086 A900179) (the Guideline) published on 12 May 2023 and revised on 20 May 2024.

4.2 Consultation purpose

Consultation is required to ensure compliance with the applicable Regulations and with the Decision, the Appeal and the Guideline. Jadestone has now completed its consultation for this EP, including with recently identified additional Relevant Persons.

Jadestone also undertakes consultation for the purpose of compliance with its internal policies and procedures, and in recognition of its broader corporate responsibilities.

4.3 Applicable regulations

The OPGGS(E) Regulations 2023 stipulate several requirements in relation to consultation associated with an EP (Table 4-1).

Table 4-1: Applicable regulatory requirements

Legislation	Summary	Requirement
OPGGS Act S 280	No interference	A person carrying out activities in an offshore permit area should not interfere with other users of the offshore area to a greater extent than is necessary for the reasonable exercise of the rights and performance of the duties of the first person.

Legislation	Summary	Requirement
OPGGS(E)R 21	Environment description	Description of the environment (2) The environment plan must: (a) describe the existing environment that may be affected by the activity; and (b) include details of the particular relevant values and sensitivities (if any) of that environment. Note: The definition of environment in regulation 5 includes its social, economic and cultural features. (3) Without limiting paragraph (2)(b), particular relevant values and sensitivities may include any of the following: (a) the world heritage values of a declared World Heritage property within the meaning of the EPBC Act; (b) the national heritage values of a National Heritage place within the meaning of that Act; (c) the ecological character of a declared Ramsar wetland within the meaning of that Act; (d) the presence of a listed threatened species or listed threatened ecological community within the meaning of that Act; (e) the presence of a listed migratory species within the meaning of that Act; (f) any values and sensitivities that exist in, or in relation to, part or all of: (i) a Commonwealth marine area within the meaning of that Act; or (ii) Commonwealth land within the meaning of that Act.
OPGGS(E)R 25(1)	Relevant Persons	In the course of preparing an environment plan, or a revision of an environment plan, a titleholder must consult each of the following (a Relevant Person): (a) each Department or agency of the Commonwealth to which the activities to be carried out under the environment plan, or the revision of the environment plan, may be relevant; (b) each Department or agency of a State or the Northern Territory to which the activities to be carried out under the environment plan, or the revision of the environment plan, may be relevant; (c) the Department of the responsible State Minister, or the responsible Northern Territory Minister; (d) a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the environment plan, or the revision of the environment plan; (e) any other person or organisation that the titleholder considers relevant.
OPGGS(E)R 25(2)	Sufficient information	For the purpose of the consultation, the titleholder must give each Relevant Person sufficient information to allow the Relevant Person to make an informed assessment of the possible consequences of the activity on the functions, interests or activities of the Relevant Person.
OPGGS(E)R 25(3)	Reasonable period	The titleholder must allow a Relevant Person a reasonable period for consultation.

Legislation	Summary	Requirement
OPGGS(E)R 25(4)	Sensitive information	The titleholder must tell each Relevant Person the titleholder consults that: (a) the Relevant Person may request that particular information the Relevant Person provides in the consultation not be published; and (b) information subject to such a request is not to be published under this Part.
OPGGS(E)R 26(8)	Sensitive information	All sensitive information (if any) in an environment plan, and the full text of any response by a Relevant Person to consultation under regulation 25 in the course of preparation of the plan, must be contained in the sensitive information part of the plan and not anywhere else in the plan.
OPGGS(E)R 22(15)	Ongoing consultation	The implementation strategy of the environment plan must provide for appropriate consultation with: (a) Relevant authorities of the Commonwealth, a State or Territory; and (b) Other relevant interested persons or organisations.
OPGGS(E)R24(b)	Consultation report	The environment plan must contain: A report on all consultations between the titleholder and any relevant person, for regulation 25, that contains: (i) A summary of each response made by a Relevant Person; (ii) An assessment of the merits of any objections or claim about the adverse impact of each activity to which the environment plan relates; (iii) A statement of the titleholder's response, or proposed response, if any, to each objection or claim; and (iv) A copy of the full text of any response by a Relevant Person.
OPGGS(E)R34	Measures adopted from consultations are appropriate	For regulation 34, the criteria for acceptance of an environment plan are that the plan: (g) demonstrates that: (i) the titleholder has carried out the consultations required by Section 25; and (ii) the measures (if any) that the titleholder has adopted, or proposes to adopt, because of the consultations are appropriate.
OPGGS(E)R52 (1) 52 (7)	Storage of records:	Records must be stored in a way that makes retrieval reasonably practicable during the following periods: a) when the environment plan is in force for the activity b) for 5 years beginning on the day that the environment plan ceases to be in force for the activity; Records generated through preparation of the environment plan, demonstrating environmental performance, incidents, emissions and discharges, calibration and maintenance, and in relation to the implementation strategy arrangements must be kept.

4.4 Applicable case law and guidance

The OPGGS(E)Regulations are the legal basis for undertaking offshore operations in the oil and gas industry. These regulations are administered by NOPSEMA who are responsible for ensuring compliance.

A judicial review of a NOPSEMA decision to accept the Barossa Development Drilling and Completions Environment Plan was undertaken by Justice Bromberg in mid-2022. Justice Bromberg found in favour of the Applicant (Dennis Murphy Tipakalippa), that NOPSEMA could not be reasonably satisfied that all Relevant Persons were consulted as is required under regulations 10A[1] and Division 2.2A and set aside the accepted EP (*Tipakalippa v National Offshore Petroleum Safety and Environmental Management Authority (No. 2) [2022] FCA 1121* (the Decision)).

Santos NA Barossa Pty Ltd appealed the Decision made by Justice Bromberg, with a hearing held on 15 and 16 November 2022. Justices Kenny, Mortimer, and Lee JJ appeal decision, in favour of the Applicant, was given on 2 December 2022, confirming the Santos EP should be set aside (*Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193* (the Appeal)). The appeal decision represents the law regarding requirements for consultation in accordance with Environment Regulations.

Based on these findings NOPSEMA developed a Guideline (*Consultation in the course of preparing an environment plan Doc No N-04750-GL2086 A900179*) (the Guideline) to assist Titleholders to comply with their obligations to consult Relevant Persons.

That guidance being:

- The representative bodies (Land Councils and Prescribed Body Corporates (PBCs) remain Relevant Persons.
- Traditional Owners are also Relevant Persons, i.e. they need to be actively consulted, and therefore through that process need to be given every encouragement to respond, formally through their representative spokesperson/s, i.e. Clan leaders, generally identified as Elders, and the Directors of Prescribed Body Corporates (PBCs).
- The residents of the Indigenous lands are to be consulted, although those residents are not required to be individually identified and consulted directly. Rather providing reasonable means for those residents to become aware of a project, and its associated potential impacts and remedies, with a reasonable means to respond to the titleholder and a reasonable time to respond, is likely to be sufficient.

Consequently, Jadestone has sought to:

- Identify relevant Traditional Owners, and their Elders, and the Directors of PBCs that can be regarded as their representative spokesperson/s.
- Ensure every reasonable effort is made to provide the project information in a way that is clear and able to be understood by Traditional Owners, and that Traditional Owners (through their representative spokesperson/s) provide a response to Jadestone, even if considered ‘no response’.
- Decide on the reasonable means by which residents are to become aware of a project, similarly in a way that is clear and able to be understood by residents, and their response opportunities.

Jadestone has taken particular care in gaining an understanding of the construct of Traditional Owners and their representative spokesperson/s. That is, Native Title holders associated with a PBC (generally an Aboriginal Corporation) as a result of a Native Title Determination, or the Aboriginal peoples in the Northern Territory who are residents on Freehold Aboriginal Land, held by a Land Trust and administered by a Land Council.

[1] The OPGGS(E) Regulations that are referred to in this section are written as is in the *Santos NA Barossa Pty Ltd v Tipakalippa 2022 decision* and 2023 NOPSEMA guideline. These refer to the 2009 OPGGS(E) regulations and these do not correlate to appropriate regulation numbers in the new 2023 OPGGS(E) Regulations.

Jadestone notes also that the Decision and the Appeal has implications for consultation with the fishing industry, i.e. how individual fishery licence holders are to be regarded.

The Decision and subsequent Appeal outcome must be applied as law and has been thoroughly considered and applied in the development of this EP, including but not limited to the following (extracts from the Decision, emphasis added):

> *138* For the exercise of identifying the universe of Relevant Persons falling within the description in reg 11A(1)(d), the titleholder will have to be faithful to that description. The titleholder will need to properly understand its proposed activity and at least broadly understand the extent of the physical environment that may be affected, the values and sensitivities in that physical environment and thus the functions, interests or activities of each person or each category of persons that may intersect with that physical environment.
>
> *139* The exercise of identifying the universe of Relevant Persons within the description in reg 11A(1)(d) is capable of being described person by person, category by category, or alternatively, by the titleholder describing the methodology utilised in terms which, as stated above, demonstrate an understanding of the considerations that have to be and which were taken into account in order for the exercise to be faithfully consistent with the description of relevant person in reg 11A(1)(d) (a methodological demonstration). A critical aspect of such a demonstration would be the identification of the totality of the sensitivities and values considered relevant and how each was evaluated to discover their possible intersection with the functions, interests and activities of particular people or organisations.
>
> *140* If that were done in an environment plan, NOPSEMA could then properly arrive at the foundational conclusion for the remainder of its tasks in relation to the consultation criteria, that the environment plan demonstrates that the universe of Relevant Persons was identified by the titleholder consistently with the description of a relevant person provided by reg 11A(1).

4.5 Relevant Persons Identification Methodology

4.5.1 Relevant Persons Methodology Workflow

To ensure that all Relevant Persons for Montara are identified (self-identifying Relevant Persons excepted) Jadestone has now carried out, with regard to the Regulations and the applicable case law summarised in Section 4.4, a methodological approach to identification (Figure 4-1). This builds on the historical consultation already undertaken.

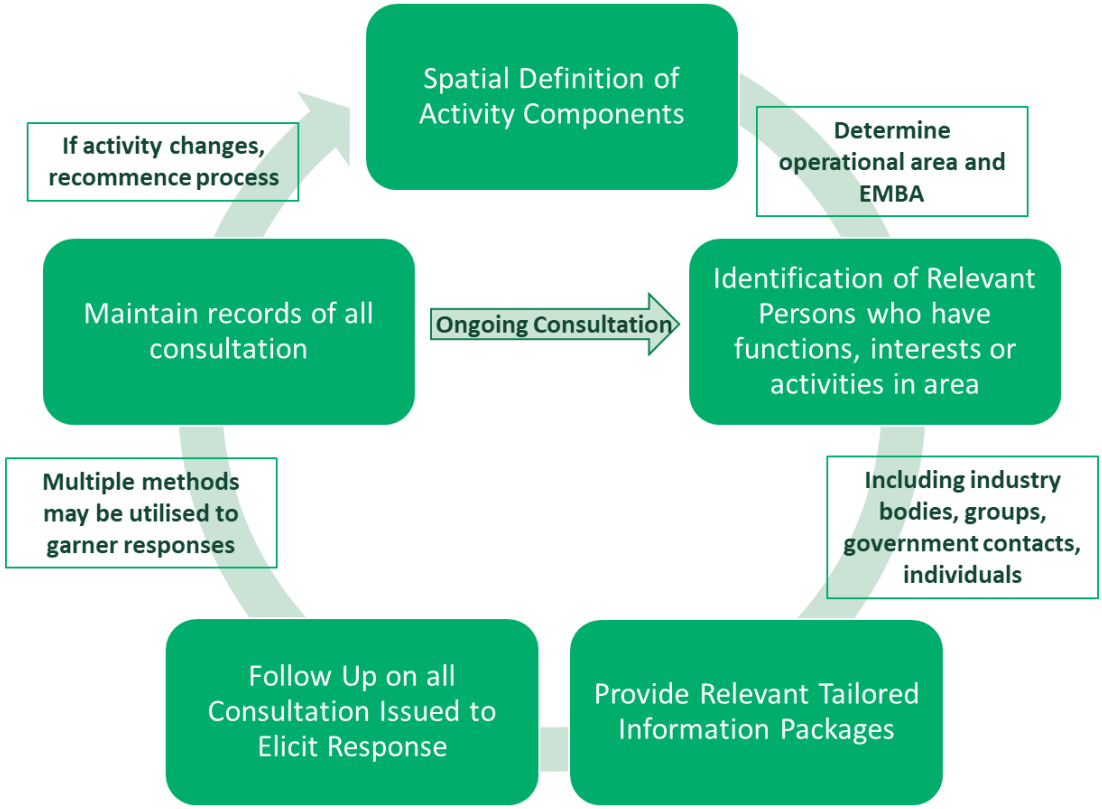


Figure 4-1: Relevant person identification and consultation process

4.5.2 Approach to identifying organisations and people

Organisations and people within each Relevant Person category of the OPGGS(E)R were identified using the following steps and resources:

- Jadestone's stakeholder database for Montara contains a list of organisations and people identified since 1998. Following the methodology applied to identify Relevant Person categories the database was reviewed for the purpose of identifying Relevant Persons who had been contacted previously.
- Jadestone has also contracted consultants with experience in stakeholder consultation in the Australian petroleum industry, including the identification of Relevant Persons, consultation, and negotiation with Indigenous peoples in the remote coastal areas of Northern Australia, to prepare a complete list of Relevant Persons.
- Figures developed with the EMBA showing overlap with fisheries, coastlines, protected areas, and other areas of interest.

A Review of stakeholders contacted previously included identifying:

- All Relevant Persons previously contacted through various campaigns undertaken at Montara (for historic drilling and operations EPs).
- Any Relevant Persons who had identified themselves through previous notifications.
- Any Relevant Persons who self-identified in historic consultation or were identified by other stakeholders previously consulted.

As a result of the above, and as a consequence of the Decision, the Appeal and the Guideline, Jadestone identified gaps in Relevant Persons that had not been consulted on the Montara project previously, being a number of individual commercial fishery licence holders in the Commonwealth, Western Australian and Northern Territory fisheries that intersect with the EMBA, the Traditional Owners with coastline, near shore

and sea country interests within or immediately adjacent to the EMBA, and cruise and charter operators operating in waters off of the coast of northwest Western Australia and the Northern Territory. New consultation packages were prepared to reflect the new legislative requirements to issue to all Relevant Persons identified for the activity.

The list of Relevant Persons developed for the Montara Operations EP was reviewed for the Sea Eagle and Tahbilk activities. Reflecting the smaller EMBA for Sea Eagle and Tahbilk, a number of Relevant Persons were removed. . The exception to this were eNGOs, they are further described in Section 4.5.6. No new Relevant Persons were identified beyond those already consulted as part of the Montara Operations EP as a result of the Sea Eagle and Tahbilk activity and EMBA.

4.5.3 Initial approach to identifying commercial fishers – Montara field operations

Jadestone has access to lists of all the individual commercial fishery licence holders in the Commonwealth, Northern Territory and Western Australian fisheries that intersect with the EMBA and for the purpose of consultation has undertaken the approach described below:

- Once the EMBA had been defined, the fisheries that overlapped the Montara Operations EMBA were identified.
- Jadestone contacted the Commonwealth Government's AFMA, the Northern Territory's DAF and the Western Australia's DPIRD seeking the names and addresses (noting that telephone numbers or email addresses are not provided through this process) of the commercial fisheries licence holders within the EMBA. That process was also supported by researching the individual fisheries. Such research identified that significant areas of each fishery zone were not fished. That research was able to identify those fisheries where no fishing activity occurred within or adjacent to the EMBA.
- Initially, all licence holders in the Commonwealth, Northern Territory and Western Australian commercial fisheries that overlapped or were adjacent to the Montara Operations EP EMBA were consulted. The number of individual licence holders was significant, with the designated areas of many of the fisheries being over large areas offshore of the Australian coast.
- Further analysis of the postal addresses of the individual licence holders suggests that many of those licence holders do not fish at any time within or adjacent to the EMBA; and Jadestone's initial consultation included a request that those individual licence holders that do fish within the EMBA indicate that in return correspondence.

4.5.3.1 Changed approach to identifying Western Australian Commercial Fisheries

In February 2023, the Western Australian Fishing Industry Council (WAFIC) posted on its website an advice to offshore petroleum titleholders that consultation with Western Australian commercial fishery licence holders is necessary only in the event of a significant unplanned event. In July 2023, NOPSEMA confirmed to Jadestone (through formal correspondence on the Stag Operations EP submission) that the advice from WAFIC was, if followed by offshore petroleum titleholders, and because all Western Australian commercial fishery licence holders are mandated members of and are represented by WAFIC sufficient to demonstrate consultation with Western Australian commercial fishery licence holders.

The advice on the WAFIC website states:

The Western Australian Fishing Industry Council (WAFIC) is the peak industry body representing commercial fishing, pearling and aquaculture enterprises, processors and exporters in Western Australia.

WAFIC works to secure a responsible and sustainable industry that is confident of resource sustainability and security of access to a fair share of the resource; cost-effective fisheries management so that businesses can be operated in a safe, environmentally responsible and profitable way; and ensures investment in industry research and development is valued and promoted.

In response to the appeal decision made by the Federal Court of Australia Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 (appeal decision) on 2 December 2022, WAFIC would like to communicate the preferred approach in undertaking consultation with commercial fishing licence holders that will only be affected by a significant unplanned event (emergency scenario).

To manage consultation fatigue with the commercial fishing licence holders, WAFIC requests titleholders develop separate consultation strategies for significant unplanned events (for example oil spill) where titleholders can demonstrate the likelihood of such events occurring is extremely low.

Consultation on unplanned events resulting in an emergency scenario should only be undertaken if an incident occurs.

Based on the advice from NOPSEMA and WAFIC in 2023, Jadestone did not intend to, except for a significant unplanned event (emergency scenario), consult further with Western Australian commercial fishery licence holders within or adjacent to the EMBA.

4.5.3.2 Fishing Effort within the Sea Eagle and Tahbilk EMBA

A review of the Montara Operations EP commercial fishery licence holders was undertaken in September 2025 for the smaller Sea Eagle and Tahbilk EMBA for this revised EP. This review identified that a very small subset of the fisheries contacted as part of the Montara Operations EP were within the EMBA: Western Tuna and Billfish fishery and the Northwest slope trawl fishery, as well as several WA fisheries. As these stakeholders had already been engaged with as part of operations occurring in the Montara field, no information was deemed necessary to issue to these stakeholders as part of this minor revision, particularly given the smaller EMBA. Any relevant feedback from these fisheries however was considered in this EP.

Tuna Australia have requested Jadestone consult with them instead of individual commercial tuna fishery licence holders. However, as a result of the Decision, consultation with Relevant Persons by consulting just with the representative bodies of those Relevant Persons was no longer deemed to be adequate consultation with those Relevant Persons.

It is for that reason that Jadestone have elected to continue to consult directly with the commercial fishery licence holders.

Jadestone continues to regard organisations such as Tuna Australia as Relevant Persons in their own right, but do not regard consultation with those organisations as a legal means of also consulting with the individual commercial fishery licence holders as Relevant Persons; particularly as it appears not all commercial fishery licence holders are members of those organisations.

In consideration of the above Jadestone has continued its practice of, as necessary, consulting with individual commercial fishery licence holders, and in addition the peak (representative) bodies of those licence holders, as Relevant Persons in their own right.

As part of ongoing consultation, Jadestone undertakes an annual review of all licence holders within the fisheries that their EMBAs overlap. This was completed in March 2025, no new licence holders were identified within the fisheries that overlap the revised Sea Eagle and Tahbilk EMBA.

4.5.4 Approach to identifying Traditional Owners

The Decision, the Appeal and the Guideline has led to a significant change to the approach now required for identifying and consulting with Traditional Owners. The past wide-spread practice of consulting only with the Land Councils, and not the Traditional Owners represented by PBCs, is no longer appropriate. If Traditional Owners are identified as Relevant Persons, consultation is required to be with the PBCs, and wherever possible face-to-face on country.

Given the Sea Country values and sensitivities (refer Section 4.2.13.3, Appendix B)) Jadestone acknowledges that Traditional Owners will be Relevant Persons in relation to the proposed activities set out in this EP.

Nevertheless, legislative requirements mean working through Land Councils is the appropriate means by which the consultation with Traditional Owners is to be facilitated and aligns with cultural protocols.

Therefore, Jadestone sought the assistance of the Kimberley Land Council (KLC) to obtain:

- details of the PBCs representing the Traditional Owners with coastline, near shore and sea country within the EMBA
- advice on the most appropriate and effective means of consulting directly with those PBCs.

The KLC referred Jadestone to KRED Enterprises as an organisation able to be engaged to assist in the identification of the PBCs along the Kimberley coast.

Jadestone engaged KRED Enterprises to provide the details of the Kimberley coast PBCs, enabling Jadestone to provide consultation presentations to the Directors of the PBC and the Elders associated with each PBC.

Jadestone recognises that each PBC and the people the PBC represents hold important cultural heritage information, including for their Sea Country. The cultural heritage information provided by PBCs through consultation has also been included in Section 4.2.13.2, Appendix B. Jadestone has also conducted their own research into areas of cultural significance for each PBC and this is detailed in Section 4.2.13.2, Appendix B.

Jadestone has provided information about the Sea Eagle and Tahbilk activities, along with a map of the Sea Eagle and Tahbilk EMBA in relation to their potential areas of sea country, to the three PBCs with potential sea country interests adjacent to the Sea Eagle and Tahbilk EMBA. J Based on the information provided, engagement conducted as part of the Montara Operations EP development, the considerable distance of the nearest point of the EMBA to the coastline, and short duration of the activities, Jadestone considers consultation with those PBCs to be complete. Jadestone has offered to provide presentations to the Directors and Elders of the three PBCs on numerous occasions over the past two years and remains, if requested, available to provide presentations at any time in the future.

Table 4-2 provides a summary as of September 2025, showing consultation with PBCs is complete. The full text of the consultation for the Montara Operations five-year revision EP has been previously submitted to NOPSEMA, and under Regulation 56 of the of the OPGGS(E)R is not included here.

Table 4-2: Summary of PBC Engagement (September 2025)

PBC	Relevant PBC Info	Effort	Meetings		Cultural Heritage	EP Updates	OPGGS(E)R Obligations			Ongoing Consultation
	Correct Detail confirmation		Meeting Held	Meeting Actions		Relevant Sections	25(2) Sufficient Information provided	25(3) Reasonable Period	Assessment	Actions
Balanggarra Aboriginal Corporation	Emails have not bounced back. Still awaiting PBC response.	Have not responded to initial introductory email on 11.08.23 or subsequent emails. Follow up emails sent on: 23.10.23 28.11.23 11.01.24 31.01.24 14.02.24 14.03.24 08.05.24 13.06.24 - Email sent advising Montara Ops EP has been accepted by NOPSEMA. Emails sent to confirm PBC contact details: 25.11.24 06.12.24 17.12.24 12.06.25 13.06.25 email received providing updated PBC contact details. 16.09.25 email sent notifying PBC of submission of two EPs and providing EMBA.	No	N/A	North East Kimberly -northern boundary runs through sea country and encompasses several islands near the coast, including the Sir Graham Moore Islands, Adolphus Island and Reveley Island. There are strong traditions to collect and harvest saltwater fish and other sea-foods from the open sea and reefs. Mullet, silver bream, coral trout and stingrays are all caught along rocky coast or shallow water. Other seafoods collected includes oysters, cockle shells and Baler shells.	None required. EP assesses the potential impact on fish in general in the EP. No additional control measures required to manage potential impacts from planned events. OPEP includes for scientific monitoring of habitats and fauna in the event of a large spill. OPEP includes an EPS to inform PBC if spill trajectory modelling indicates a significant spill moving towards WA coastline.	11.08.2023 Initial email, with Invitation for Consultation document attached, seeking opportunity to make presentation to Directors. 14.03.24 Email sent requesting information on community engagement sessions be passed onto members of the PBC and with invitation to attend.	First contact on 11.08.2023 Follow ups x 7. Deadline for response sent on 23.02.2024. Total time - 28 weeks from first contact to deadline.	Consultation considered complete. A reasonable period has been provided (Reg 25(3)). Information on cultural heritage has been requested. In lieu of receiving information from the PBC, JSE has undertaken research to inform themselves of any areas of significance. Offer to present to PBC Directors and Elders have been sent multiple times. Offer to attend community engagement sessions was provided ahead of the sessions. JSE have provided Invitation for Consultation document describing sufficient information (Reg 25(2)): the operational area and EMBA the potential impacts to the waters and coast adjacent to the PBC Maps showing the operational area and EMBA NOPSEMA guidance brochure control measures and mitigation measures in place for the activity Full EP available online at JSE website.	In the event of a change in the activity which could lead to a significant increase in risk or impact to receptors such as islands adjacent to the coastline, or to fish communities that may be food sources, provide: updated details of the change to the PBC offer a meeting to present and discuss the change. Remain available for presentation to PBC if requested. For a level 2 or 3 spill: if oil spill trajectory modelling shows potential contact with the WA coastline, relevant PBCs will be notified within 24 hours of oil spill modelling trajectory confirmation (verbal or written). Every 6 months from EP acceptance, reach out to PBC contact to attempt to confirm: Contact name Contact details JSE contact details Who to inform in the event of a spill event heading towards the coastline. If unavailable reach out to KRED and relevant land council to confirm contact.

PBC	Relevant PBC Info	Effort	Meetings		Cultural Heritage	EP Updates	OPGGS(E)R Obligations			Ongoing Consultation
	Correct Detail confirmation		Meeting Held	Meeting Actions		Relevant Sections	25(2) Sufficient Information provided	25(3) Reasonable Period	Assessment	Actions
Mayala Inninalang Aboriginal Corporation	Email has not bounced back. Email received on 11.03.24 confirming information has been received.	Have not responded to initial introductory email on 11.08.23. 06.03.24 JSE email requesting opportunity to meet with Directors having received confirmation from WAC on 05.03.24 that need to contact PBC boards directly for any decision making. 11.03.24 Response received indicating Directors meeting tomorrow and will discuss JSE email and be in touch. Further follow up email sent 08.05.24. 13.06.24 - Email sent advising Montara Ops EP has been accepted by NOPSEMA. 25.11.24 – email sent to confirm PBC contact details. 28.11.24 email received providing updated PBC contact details. 12.06.25 - email sent to confirm PBC contact details. 12.06.25 email received providing updated PBC contact details.	No	N/A	Traditional owners of hundreds of islands, interconnecting seas and reefs in the Kimberley's Buccaneer Archipelago and King Sound. Unique island culture and deep knowledge of the complex currents and tides in their Sea Country.	None required. EP assesses the potential impact on the marine environment in general in the EP. No additional control measures required to manage potential impacts from planned events. OPEP includes for scientific monitoring of habitats and fauna in the event of a large spill. OPEP includes an EPS to inform PBC if spill trajectory modelling indicates a significant spill moving towards WA coastline.	11.08.2023 Initial email, with Invitation for Consultation document attached, seeking opportunity to make presentation to Directors. 14.03.24 Email sent requesting information on community engagement sessions be passed onto members of the PBC and with invitation to attend.	First contact on 11.08.2023. Follow ups x 3 (however please refer WAC for other follow ups). Deadline for response sent on 23.02.2024. Total time – 28 weeks from first contact to deadline.	Consultation considered complete. A reasonable period has been provided (Reg 25(3)). Information on cultural heritage has been requested through meetings with WAC. In lieu of receiving information from the PBC, JSE has undertaken research to inform themselves of any areas of significance. Offers to present to PBC Directors and Elders have been sent multiple times. JSE have presented to WAC in lieu direct response from PBC. Offer to attend community sessions was provided ahead of the sessions. JSE have provided Information packages describing sufficient information (Reg 25(2)): the operational area and EMBA the potential impacts to the waters and coast adjacent to the PBC Maps showing the operational area and EMBA NOPSEMA guidance brochure control measures and mitigation measures in place for the activity Full EP available online at JSE website.	In the event of a change in the activity which could lead to a significant increase in risk or impact to receptors such as islands adjacent to the coastline, or to fish communities that may be food sources, provide: updated details of the change to the PBC offer a meeting to present and discuss the change. Remain available for presentation to PBC if requested. For a level 2 or 3 spill: if oil spill trajectory modelling shows potential contact with the WA coastline, relevant PBCs will be notified within 24 hours of oil spill modelling trajectory confirmation (verbal or written). Every 6 months from EP acceptance, reach out to PBC contact to attempt to confirm: Contact name Contact details JSE contact details Who to inform in the event of a spill event heading towards the coastline. If unavailable reach out to KRED and relevant land council to confirm contact.

PBC	Relevant PBC Info	Effort	Meetings		Cultural Heritage	EP Updates	OPGGS(E)R Obligations			Ongoing Consultation
	Correct Detail confirmation		Meeting Held	Meeting Actions		Relevant Sections	25(2) Sufficient Information provided	25(3) Reasonable Period	Assessment	Actions
		16.09.25 email sent notifying PBC of submission of two EPs and providing EMBA.								

PBC	Relevant PBC Info	Effort	Meetings		Cultural Heritage	EP Updates	OPGGS(E)R Obligations			Ongoing Consultation
	Correct Detail confirmation		Meeting Held	Meeting Actions		Relevant Sections	25(2) Sufficient Information provided	25(3) Reasonable Period	Assessment	Actions
Wanjina Wunggurr Aboriginal Corporation	Emails have not bounced back. Email received on 24.10.23 from KLC confirming information has been received and passed on to PBC.	Have not responded to initial introductory email on 11.08.23 or subsequent emails. Follow up emails sent on: 23.10.23 14.11.23 28.11.23 08.01.24 11.01.24 15.01.24 31.01.24 06.02.24 KLC emailed response indicating Directors meeting scheduled for March. 06.02.24 JSE responded to request one hour of the Directors time. 28.02.24 JSE follow up email requesting meeting date. 05.03.24 KLC emailed indicating Directors meeting, due to time constraints will now be in May. 05.03.24 Phone call placed and JSE left a voice message trying to organise a date for presentation.	No	N/A	Only one to overlap EMBA. Sea country and coast. Strong customary practices for collecting and harvesting fish and other seafoods from reefs and mangroves.	None required. EP assesses the potential impact on the marine environment in general in the EP. No additional control measures required to manage potential impacts from planned events. OPEP includes for scientific monitoring of fish, including fish as food sources (commercial) in the event of a large spill. OPEP includes EPS to inform PBC if spill trajectory modelling indicates a significant spill moving towards WA coastline.	11.08.2023 Initial email, with Invitation for Consultation document attached, seeking opportunity to make presentation to Directors. 14.03.24 Email sent requesting information on community engagement sessions be passed onto members of the PBC and with invitation to attend.	First contact on 11.08.2023 Follow ups x >10.. Deadline for response sent on 23.02.2024. Total time – 28 weeks from first contact to deadline.	Consultation considered complete. A reasonable period has been provided (Reg 25(3)). Information on cultural heritage has been requested. In lieu of receiving information from the PBC, JSE has undertaken research to inform themselves of any areas of significance. Offers to present to PBC Directors and Elders have been sent multiple times. Offer to attend community sessions was provided ahead of the sessions. JSE have provided Information packages describing sufficient information (Reg 25(2)): the operational area and EMBA the potential impacts to the waters and coast adjacent to the PBC Maps showing the operational area and EMBA NOPSEMA guidance brochure control measures and mitigation measures in place for the activity Full EP available online at JSE website.	In the event of a change in the activity which could lead to a significant increase in risk or impact to receptors such as islands adjacent to the coastline, or to fish communities that may be food sources, provide: updated details of the change to the PBC offer a meeting to present and discuss the change. Remain available for presentation to PBC if requested. For a level 2 or 3 spill: if oil spill trajectory modelling shows potential contact with the WA coastline, relevant PBCs will be notified within 24 hours of oil spill modelling trajectory confirmation (verbal or written). Every 6 months from EP acceptance, reach out to contact to attempt to confirm: Contact name Contact details JSE contact details Who to inform in the event of a spill event heading towards the coastline. If unavailable reach out to KRED and relevant land council to confirm contact.

PBC	Relevant PBC Info	Effort	Meetings		Cultural Heritage	EP Updates	OPGGS(E)R Obligations			Ongoing Consultation
	Correct Detail confirmation		Meeting Held	Meeting Actions		Relevant Sections	25(2) Sufficient Information provided	25(3) Reasonable Period	Assessment	Actions
		5.03.24 Further follow up email to arrange presentation to Directors. 08.05.2024 Further follow up email. 13.06.24 - Email sent advising Montara Ops EP has been accepted by NOPSEMA. Emails sent to confirm PBC contact details: 25.11.24 06.12.24 17.12.24 13.01.25 email received providing updated PBC contact details. Emails sent to confirm PBC contact details: 12.06.25 22.06.25 11.07.25 11.07.25 email received providing updated PBC contact details. 16.09.25 email sent notifying PBC of submission of two EPs and providing EMBA.								

The purpose of the presentations to the PBCs are to:

- develop a respectful relationship with the Relevant Persons identified for current and future activities;
- seek advice on the format and type of information the Relevant Persons require to enable them to make an informed decision as to whether the activity may affect their functions, interests or activities;
- provide sufficient information to inform Relevant Persons of the potential impacts from the Montara activity;
- seek information on the cultural heritage and sea country values within the EMBA;
- document and address any comments on the activity and the potential impacts;
- seek advice of any preference on how Jadestone contact them in the future, or continue consultation dialogue (e.g. further meetings, regular updates, community sessions);
- request the Relevant Persons identify whether they need anything further from Jadestone to assist them with comments they might wish to make; and
- confirm if the Relevant Persons do not wish to receive further updates for activities associated with the Montara Field.

Information gathered from the consultation presentations may help Jadestone to inform the environmental impact assessment for the activity by providing further information on the cultural heritage values that may be present within the EMBA. Jadestone is also attempting to use the consultation to identify those sensitive cultural and environmental places that may be prioritised in the event of a significant oil spill. Whilst in the event of a spill, Jadestone would seek the advice of a heritage advisor (as described in the OPEP), the information gathered on the locations of sensitive places through the consultation presentations will assist response planning and provide a means of direct communication with Traditional Owners through their PBC.

In the absence of responses from PBCs on the potential cultural and environmental places, Jadestone has conducted research into the likely areas of interest.

4.5.5 Community Engagement Sessions

Jadestone also engaged KRED Enterprises to arrange and assist Jadestone with community engagement sessions at Mowanjum, Derby, Broome, Bidyadanga, Beagle Bay, Djarindjin, Kalumburu (was unable to proceed due to a lack of interest when KRED attempted to arrange the sessions), Wyndham and Kununurra. These meetings were held between 19 March 2024 and 25 March 2024 and further details are provided in Table 4-3.

Jadestone undertook newspaper and social media advertising between one and two weeks before each community engagement session to ensure as many people as possible were informed of the opportunity to meet with Jadestone. KRED Enterprises also advertised the sessions at each community through their contacts there and word of mouth.

The sessions were also advertised through Jadestone's Instagram and Facebook accounts.

A half page advertisement in the Broome Advertiser reached members of Mowanjum, Derby, Broome, Bidyadanga, Beagle Bay and Djarindjin communities. A half page advertisement in the Kimberley Echo reached members in Wyndham and Kununurra communities.

Posters were also produced and displayed on community notice boards in Broome, Wyndham, and Derby.

A QR code that took people to the Jadestone Montara field webpage was inserted into the newspaper advertisements and the posters displayed at the community notice boards.

The purpose of these sessions was to ensure that community members who were not represented by PBCs and businesses and organisations that Jadestone had already consulted, and other potentially Relevant Persons could speak directly with Jadestone representatives and should they wish to had the opportunity to self-identify as a Relevant Person.

At each session the Invitation for Consultation document, copies of PowerPoint presentations and maps were available to provide context to discussions and queries were available to be taken. NOPSEMA's *Consultation on offshore petroleum environment plans*: *Information for the community* brochure was also available at each session. A summary of the community engagement sessions is provided in Section 4.10.2. Jadestone believe that they have made reasonable efforts to engage with any person who wishes to be consulted.

The Land Councils and the PBCs representing Traditional Owner Clans continue to be identified as Relevant Persons

Table 4-3: Summary of Community Information Sessions

Location	Date and Time (2024)	Venue
Mowanjum	Tuesday 19 March, 10am - 12pm	Mowanjum Art Centre
Derby	Tuesday 19 March, 2pm - 4pm	Front of the IGA store
Broome	Wednesday 20 March, 2pm - 4pm	Boulevard Shopping Centre
Bidyadanga	Thursday 21 March, 10am - 2pm	General Store
Beagle Bay	Friday 22 March, 10am - 12pm	Community Hall
Djarindjin	Friday 22 March, 2pm - 4pm	General Store
Kalumburu (cancelled)	Sunday 24 March, 10am – 12pm	Kalumburu Resource Centre
Wyndham	Sunday 24 March, 2pm – 4pm	Front of the IGA store
Kununurra	Monday 25 March, 9am – 11am	Gateway Shopping Centre

4.5.6 Non-government environment organisations (eNGOs)

Jadestone carried out a review to identify the non-government environment organisations (eNGOs) that may have interests in the environment of the area within the EMBA and more broadly and added in those organisations as Relevant Persons. They include those eNGOs that have publicly declared interest in the potential impacts associated with climate change. The review included the examination of the EPs of other titleholders in proximity to Montara, and a search of the Australian Department of Foreign Affairs and Trade (DFAT) NGO list for Western Australia based eNGOs that had identified an interest in oil and gas or climate change impacts. Coastal conservation groups adjacent to the EMBA were also identified through a search for registered conservation groups on the DBCA website, and the identified organisations were reviewed to determine if they were a Relevant Persons for Montara. In addition, through advertisements and exposure through other mediums, Jadestone provided the opportunity for other eNGOs to self-identify.

4.5.7 Self-identified Relevant Persons

Promulgation of project information, through a range of mediums, may result in the identification of additional Relevant Persons through self-identification. Throughout the life of each of its projects, including Montara, Jadestone is continually assessing the merits of self-identified Relevant Persons and as appropriate, adding to the list of Relevant Persons.

4.6 Project Activities

Section 2 of this EP details the activity description including the location, timing, infrastructure, vessels and each relevant on-going activity.

4.7 Environmental values and sensitivities

4.7.1 Spatial extent of the environment that may be affected

Section 3 of this EP sets out a detailed description of the environment that commences with the spatial extent of the EMBA, different zones and thresholds within those areas, enabling the first step in identification of Relevant Person categories. As part of the revision to this EP, the EMBA was updated and has reduced in size due to a change in the credible spill scenario. Once the operational area and EMBA spatial footprints have been created, the information is overlaid on a number of environmental, social and economic geospatial information layers to identify values and sensitivities within the operational area and EMBA, respectively, enabling the Relevant Persons and the values or sensitivities that might be affected to be identified.

Sources of information are to include:

- National matters of environmental significance;
- Conservation atlas (biologically important areas);
- Exclusive Economic Zone for Australia, and Commonwealth and State waters;
- Commercial and State fishing jurisdictions;
- Shipping fairways;
- Other commercial operations such as oil and gas facilities, ecotourism;
- Protected areas, parks, reserves, management areas, special zones;
- Intertidal and benthic habitats (may include point data, satellite, remote sensing or aerial imagery);
- Management and recovery plans;
- Public and scientific literature;
- Non-Government environment organisations (eNGOs); and
- Cultural heritage sites and values, including the identification of Traditional Owner Clans with coastline, near shore and sea country interests.

Due to their broader interest in climate change eNGOs as Relevant Persons have interests that extend beyond an EMBA and therefore may include National organisations in addition to State/Territory organisations.

4.7.2 Totality of environmental values and sensitivities

The totality of the defined activities, the EMBA, the relevant values and sensitivities of that environment, identification and assessment of risks and impacts, have been re-assessed to identify where a person's or organisation's functions, interests or activities may be affected by the activities to be carried out in the EP.

Consistent with the description of Relevant Person provided by Regulation 25(1), to be affected means the functions, interests or activities of a person or organisation would be affected by activities to be carried out under the EP, including the totality of the environment values and sensitivities considered relevant. This is based on the EMBA of the low exposure value from the worst-case credible spill scenario.

The EMBA boundary was used to determine the Relevant Persons that may be affected. Arguably the EMBA is overly conservative as it delineates the low exposure threshold which does not necessarily equate to potential environmental impact to a receptor or a Relevant Persons functions, activities, or interests

(typically this is triggered at the moderate exposure threshold). Therefore, the totality defined by the low threshold EMBA is considered to be overly conservative.

In addition, the potential impacts from climate change as a result of the activity have been considered. This led to the identification of eNGOs with an interest in climate change, and an attempt to capture other self-identified Relevant Persons by the publication of project information through a range of mediums.

4.7.3 Relevant Person categories

Table 4-4 outlines the government departments and agencies that have been identified as relevant within Regulation 25 (1)(a), (b), (c), (d) and (e).

Table 4-4: Assessment of relevance of identified Relevant Persons

Relevant person initially consulted	Relevance to the activity	Functions, interest or activities
Commonwealth government department or agency		
Australian Communications and Media Authority (ACMA) within the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDC)	Considered Relevant Persons under Regulation 25(1)(a)	Administrator of submarine cable protection zones. Relevant when active activity may impact on subsea cables.
Australian Fisheries Management Authority (AFMA)	Considered Relevant Persons under Regulation 25(1)(a)	AFMA is the Australian Government agency responsible for the efficient management and sustainable use of Commonwealth fish resources on behalf of the Australian community. AFMA manages and monitors commercial Commonwealth fishing to ensure Australian fish stocks and the Australian fishing industry is viable now and in the future. Relevant when the activity has the potential to impact on fisheries resources in AFMA-managed fisheries.
Australian Hydrographic Office (AHO)	Considered Relevant Persons under Regulation 25(1)(a)	AHO is part of the Department of Defence, responsible for providing Australia's national charting service under the terms of SOLAS and the *Navigation Act 2012* (Cth). Role includes provision of nautical charting (including charts in electronic form) and associated services in support of maritime safety. Responsible for the publication and distribution of nautical charts and other information required for the safe shipping and navigation in Australian waters. Relevant when the activity may impact operational requirements and where nautical products and other maritime safety and information is required to be updated, including Notice to Mariners.
Australian Maritime Safety Authority (AMSA)	Considered Relevant Persons under Regulation 25(1)(a)	AMSA is the statutory authority established under the *Australian Maritime Safety Act 1990*. Principal functions are promoting maritime safety and protection of the maritime environment, preventing, and combating ship-sourced pollution in the marine environment, providing infrastructure to support safety of navigation in Australian waters, and providing national search and rescue service to the maritime and aviation sectors.

Relevant person initially consulted	Relevance to the activity	Functions, interest or activities
Clean Energy Regulator	Considered Relevant Persons under Regulation 25(1)(a)	The Clean Energy Regulator administers schemes legislated by the Australian Government for measuring, managing, reducing, or offsetting Australia's carbon emissions, determined by climate change law. The Regulator has administrative responsibilities for the National Greenhouse and Energy Reporting Scheme, the Emissions Reduction Fund, the Renewable Energy Target, and the Australian National Registry of Emissions Units. As an economic regulator, the Regulator does not have any direct role or powers under our legislation to enforce work health and safety, environmental protection, or planning laws.
Department of Agriculture, Fisheries and Forestry (DAFF)	Considered Relevant Persons under Regulation 25(1)(a)	Department responsible for managing biosecurity for incoming goods and conveyances. Relevant due to the potential for the transfer of marine pest between MODU, vessels and the mainland. Activities such as seismic surveys, drilling, exploration, geotechnical surveys, construction, and installation of sub-sea infrastructure have the potential to affect commercially important fish species, their prey and habitats, and the business activities of commercial fishers.
Department of Defence (DOD)	Considered Relevant Persons under Regulation 25(1)(a)	Responsible for Australian defence activities. Relevant when the activity encroaches on known training areas and /or restricted airspace.
Department of Foreign Affairs and Trade (DFAT)	Considered Relevant Persons under Regulation 25(1)(a)	Promotes and protects Australia's interests internationally. Manages relationships with countries bordering Australia's north, including Indonesia, Timor Leste and Papua New Guinea. Relevant when the activity may impact on waters outside Australia's maritime jurisdiction (such as an oil spill).
Department of Industry, Science and Resources (DISR)	Considered Relevant Persons under Regulation 25(1)(a)	DISR is responsible for development and reform of policy relating to the resources sector, including oil and gas. Relevant due to influence on Commonwealth Government sector policy.
Director of National Parks, Parks Australia, part of the Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Considered Relevant Persons under Regulation 25(1)(a)	Parks Australia supports the Director of National Parks who has responsibility under federal environment law for six Commonwealth national parks, the Australian National Botanic Gardens and 60 Australian Marine Parks. Relevant when activities undertaken outside of an Australian Marine Park may impact on the values within a Marine Park.

Relevant person initially consulted	Relevance to the activity	Functions, interest or activities
Maritime Border Command (MBC), part of Australian Border Force (ABF), part of the Department of Home Affairs (DHA)	Considered Relevant Persons under Regulation 25(1)(a)	MBC is enabled by ABF and the Australian Defence Force (ADF), supporting the whole of government effort to protect Australia's national interests by responding with assigned maritime and air assets for civil maritime security operations. Relevant when the activity may impact on border protection activities (eg vessel patrols).
National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)	Considered Relevant Persons under Regulation 25(1)(a)	NOPSEMA is Australia's independent expert regulator for health and safety, structural (well) integrity and environmental management for all offshore oil and gas operations and greenhouse gas storage activities in Commonwealth waters, and in coastal waters where regulatory powers and functions have been conferred.
National Offshore Petroleum Titles Administrator (NOPTA)	Considered Relevant Persons under Regulation 25(1)(a)	NOPTA is responsible for the day-to-day administration of petroleum and greenhouse gas titles in Commonwealth waters in Australia.
Office of Northern Australia (ONA), within the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDC)	Considered Relevant Persons under Regulation 25(1)(a)	Office of Northern Australia (ONA) is the Australian Government's area of expertise for Northern Australia. ONA coordinates implementation of the Government's Northern Australia policy agenda to achieve a sustainable and contemporary northern economy. ONA provides policy advice, coordinates operational support for the Northern Australia Infrastructure Facility, supports Indigenous inclusion of First Nations involvement in the agenda, coordinates whole-of-government reporting, and facilitates governance structures.
WA government department or agency		
Department of Biodiversity, Conservation and Attractions (DBCA)	Considered Relevant Persons under Regulation 25(1)(b)	Manage State marine parks and reserves and protected marine fauna and flora. Relevant when activities undertaken outside of a marine park may impact on the values within a marine park.
Department of Mines, Petroleum and Exploration (DMPE)	Considered Relevant Persons under Regulation 25(1)(b)	DMPE oversees the regulatory and policy requirements of the resources sector, The department plays a critical role in building the State's economy and ensuring mineral and petroleum resources are developed in a sustainable and responsible way.
Department of Planning, Lands and Heritage (DPLH)	Considered Relevant Persons under Regulation 25(1)(b)	Protect aboriginal heritage, assist with compliance with the *Aboriginal Heritage Act 1972* and provide access to heritage information. Relevant if the activity results in impacts to Aboriginal heritage.

Relevant person initially consulted	Relevance to the activity	Functions, interest or activities
Department of Primary Industries and Regional Development (DPIRD)	Considered Relevant Persons under Regulation 25(1)(b)	A primary responsibility of the Department of Primary Industries and Regional Development is to conserve, sustainably develop and share the use of Western Australia's aquatic resources and their ecosystems for the benefit of present and future generations, through managing fisheries and aquatic ecosystems, assessment and monitoring of fish stocks, enforcement and education, biosecurity management and licensing commercial and recreational fishing activity, including commercial aquaculture.
Department of Water and Environmental Regulation (DWER)	Considered Relevant Persons under Regulation 25(1)(b)	The department is responsible for managing and regulating the State's environment and water resources.
Oil and Gas Industry		
Australian Maritime Oil Spill Centre (AMOSC)	Considered Relevant Persons under Regulation 25(1)(d)	AMOSC operates the Australian oil industry's major oil spill response facility. AMOSC's stockpile of oil spill response equipment includes oil spill dispersant and containment, recovery, cleaning, absorbent and communications equipment. Relevant due to the immediate availability of support in recovering from an oil spill event.
Carnarvon Energy	Considered Relevant Persons under Regulation 25(1)(d)	Titleholder of exploration permits, production licences and retention leases in adjacent areas.
Eni Australia	Considered Relevant Persons under Regulation 25(1)(d)	Titleholder of several exploration permits, production licences and retention leases in adjacent areas.
Inpex	Considered Relevant Persons under Regulation 25(1)(d)	Relevant due to LNG operations at Bladin Point (within Darwin Harbour).
Melbana Energy	Considered Relevant Persons under Regulation 25(1)(d)	Titleholder of NT/P87 and WA-544-P.
Oil Spill Response Limited (OSRL)	Considered Relevant Persons under Regulation 25(1)(d)	OSRL is the largest international industry-funded oil spill response cooperative, and provides preparedness, response and intervention services anywhere in the world. Relevant due to the immediate availability of support in recovering from an oil spill event.

Relevant person initially consulted	Relevance to the activity	Functions, interest or activities
Santos	Considered Relevant Persons under Regulation 25(1)(d)	Titleholder of WA-454-P, WA-545-P &NT/P84.
Shell	Considered Relevant Persons under Regulation 25(1)(d)	Titleholder of exploration permits, production licences and retention leases in adjacent areas.
WA Commercial fishers and fishing associations		
Broome Prawn Fishery	Considered Relevant Persons under Regulation 25(1)(d)	Consultation through mail-out of Invitation for Consultation and through WAFIC. Relevant when the activity could impact on commercial fishing activity.
Kimberley Crab Fishery	Considered Relevant Persons under Regulation 25(1)(d)	Consultation through mail-out of Invitation for Consultation and WAFIC. Relevant when the activity could impact on commercial fishing activity.
Kimberley Prawn Fishery	Considered Relevant Persons under Regulation 25(1)(d)	Consultation through mail-out of Invitation for Consultation and through WAFIC. Relevant when the activity could impact on commercial fishing activity.
Mackerel Managed Fishery	Considered Relevant Persons under Regulation 25(1)(d)	Consultation through mail-out of Invitation for Consultation and through WAFIC. Relevant when the activity could impact on commercial fishing activity.
Northern Demersal Scalefish Managed Fishery	Considered Relevant Persons under Regulation 25(1)(d)	Consultation through mail-out of Invitation for Consultation and through WAFIC. Relevant when the activity could impact on commercial fishing activity.
Specimen Shell Managed Fishery	Considered Relevant Persons under Regulation 25(1)(d)	Consultation through mail-out of Invitation for Consultation and through WAFIC. Relevant when the activity could impact on commercial fishing activity.
West Coast Deep Sea Crustacean Managed Fishery	Considered Relevant Persons under Regulation 25(1)(d)	Consultation through mail-out of Invitation for Consultation and through WAFIC. Relevant when the activity could impact on commercial fishing activity.

Relevant person initially consulted	Relevance to the activity	Functions, interest or activities
Western Australian Fishing Industry Council (WAFIC)	Considered Relevant Persons under Regulation 25(1)(d)	Peak industry body representing the interests of the Western Australian commercial fishing, pearling and aquaculture sectors. Relevant when the activity could impact on commercial fishing activity.
Commonwealth Commercial fishers and fishing associations		
Australian Southern Bluefin Tuna Industry Association (ASBTIA)	Considered Relevant Persons under Regulation 25(1)(d)	Peak body representing Southern Bluefin Tuna companies in Australia. The SBTF overlaps the EMBA.
Commonwealth Fisheries Association (CFA)	Considered Relevant Persons under Regulation 25(1)(d)	The peak body representing the collective rights, responsibilities, and interests of a diverse commercial fishing industry in Commonwealth regulated fisheries. Relevant when the activity could impact on commercial fishing activity.
North West Slope Fishery	Considered Relevant Persons under Regulation 25(1)(d)	Consultation through mail-out of Invitation for Consultation and follow-up mail-out. Relevant when the activity could impact on commercial fishing activity.
Seafood Industry Australia (SIA)	Considered Relevant Persons under Regulation 25(1)(d)	Seafood Industry Australia is committed to ensuring there is appropriate consultation between the Australian seafood industry and oil and gas companies on matters including impact, access, regulation and the long-term impacts to fish-stocks from petroleum-related activities. SIA has facilitated a series of conversations between the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) and interested parties on what adequate consultation with oil and gas companies means, and how it can be improved. SIA is a member of the NOPSEMA Transparency Taskforce Steering Committee and recently chaired a reinvigorated Seafood and Petroleum Industry Roundtable. Relevant when the activity could impact on commercial fishing activity.
Southern Bluefin Tuna Fishery	Considered Relevant Persons under Regulation 25(1)(d)	Consultation through mail-out of Invitation for Consultation. ASBTIA subsequently confirmed there is no Southern Bluefin Tuna fishing effort within or adjacent to the EMBA. Relevant when the activity could impact on commercial fishing activity.
Tuna Australia	Considered Relevant Persons under Regulation 25(1)(d)	Formed in 2016, Tuna Australia represents statutory fishing right owners, holders, fish processors and sellers, and associate members of the Eastern and Western tuna and billfish fisheries of Australia.

Relevant person initially consulted	Relevance to the activity	Functions, interest or activities
Western Skipjack Fishery	Considered Relevant Persons under Regulation 25(1)(d)	Consultation through mail-out of Invitation for Consultation. Relevant when the activity could impact on commercial fishing activity.
Western Tuna and Billfish Fishery	Considered Relevant Persons under Regulation 25(1)(d)	Consultation through mail-out of Invitation for Consultation. Relevant when the activity could impact on commercial fishing activity.
Recreational fishing associations		
RecFish West (WA)	Considered Relevant Persons under Regulation 25(1)(d)	Peak body representing recreational fisheries in Western Australia. Relevant when the activity could impact on recreational fishing activity.
First Nations peoples		
Balanggarra Aboriginal Corporation	Considered Relevant Persons under Regulation 25(1)(d)	Prescribed Body Corporate (PBC) for the Balanggarra people. Relevant when the activity could impact on the coastline, coastal waters and sea country.
Kimberley Land Council (KLC)	Considered Relevant Persons under Regulation 25(1)(d)	Peak Indigenous body in the Kimberley region. Relevant when the activity could impact on coastal waters and coastlines.
Mayala Inninalang Aboriginal Corporation	Considered Relevant Persons under Regulation 25(1)(d)	Prescribed Body Corporate (PBC) for the Mayala Inninalong people. Relevant when the activity could impact on the coastline, coastal waters and sea country.
Wanjina-Wunggurr Aboriginal Corporation	Considered Relevant Persons under Regulation 25(1)(d)	Prescribed Body Corporate (PBC) for the Wanjina-Wunggurr people. Relevant when the activity could impact on the coastline, coastal waters and sea country.
Tourism and Business Associations/ Tour Operators		
Absolute Ocean Charters	Considered Relevant Persons under Regulation 25(1)(d)	Absolute Ocean Charters operates from Broome, providing offshore fishing experiences. Relevant when the activity could impact on coastal waters.

Relevant person initially consulted	Relevance to the activity	Functions, interest or activities
APT Kimberley Coast Cruises	Considered Relevant Persons under Regulation 25(1)(d)	APT Kimberley Coast Cruises offer luxury cruises from Broome to Darwin. Relevant when the activity could impact on coastal waters.
Archipelago Adventures	Considered Relevant Persons under Regulation 25(1)(d)	Archipelago Adventures operates out of Broome, specialising in catamaran charters off Broome and the Dampier Archipelago. Relevant when the activity could impact on coastal waters.
Australia's North West	Considered Relevant Persons under Regulation 25(1)(d)	Australia's North West is the peak tourism body for the Kimberley and Pilbara regions. Relevant when the activity could impact on coastal waters.
Broome Tours	Considered Relevant Persons under Regulation 25(1)(d)	Small group tour operator with a powered sailing catamaran, operating out of Broome with a focus on ecotourism. Relevant when the activity could impact on coastal waters.
Broome Visitor Centre	Considered Relevant Persons under Regulation 25(1)(d)	Membership-based organisation representing tourism operators in Broome and the broader Kimberley region. Relevant when the activity could impact on coastal waters and coastlines.
Cannon Charters	Considered Relevant Persons under Regulation 25(1)(d)	Cannon Charters operates from Darwin, offering multi-day fishing experiences along the Northern Territory and Kimberley coast. Relevant when the activity could impact on coastal waters.
Coral Expeditions	Considered Relevant Persons under Regulation 25(1)(d)	Coral Expeditions operates from Darwin and Broome providing small ship expeditions. Relevant when the activity could impact on coastal waters.
HeliSpirit Luxury Kimberley Helicopter Safari	Considered Relevant Persons under Regulation 25(1)(d)	HeliSpirit Luxury Kimberley Helicopter Safari operate helicopter safaris exploring the Kimberley and NT. Relevant when the activity could impact on coastal waters and coastlines.
Kimberley Cruise Centre	Considered Relevant Persons under Regulation 25(1)(d)	Kimberley Cruise Centre arranges Kimberley adventure cruises. Relevant when the activity could impact on coastal waters and coastlines.

Relevant person initially consulted	Relevance to the activity	Functions, interest or activities
Kimberley Expeditions	Considered Relevant Persons under Regulation 25(1)(d)	Kimberley Expeditions offers Kimberley cruise expeditions. Relevant when the activity could impact on coastal waters and coastlines.
Kimberley Pearl Charters	Considered Relevant Persons under Regulation 25(1)(d)	Kimberley Pearl Cruises offer boat tours through the Kimberley Coast. Relevant when the activity could impact on coastal waters and coastlines.
Kimberley Quest	Considered Relevant Persons under Regulation 25(1)(d)	Kimberley Quest offer luxury cruises through the Kimberley. Relevant when the activity could impact on coastal waters and coastlines.
Kuri Bay Sport Fishing and Adventures	Considered Relevant Persons under Regulation 25(1)(d)	Kuri Bay Sport Fishing and Adventures offer fishing expeditions from Kuri Bay, 330 km north of Broome. Relevant when the activity could impact on coastal waters and coastlines.
Lady M Luxury Cruises	Considered Relevant Persons under Regulation 25(1)(d)	Lady M Luxury Cruises offer cruises of the Kimberley Coast. Relevant when the activity could impact on coastal waters and coastlines.
Monsoon Aquatics	Considered Relevant Persons under Regulation 25(1)(d)	Monsoon Aquatics are a world leading supplier of premium hand-picked Australian Coral and Marine life. With state-of-the-art facilities in Darwin, Cairns and Bundaberg, collection capability in the North, East and West of Australia and a growing aquaculture program, Monsoon Aquatics supplies an unmatched range of coral to retailers in Australia and wholesalers and public aquaria all around the world. Relevant when the activity could impact on coastal waters.
Ocean Dream Charters	Considered Relevant Persons under Regulation 25(1)(d)	Ocean Dream Charters offer cruises of the Kimberley. Relevant when the activity could impact on coastal waters and coastlines.
One Tide Charters	Considered Relevant Persons under Regulation 25(1)(d)	One Tide Charters offer cruises of the Kimberley. Relevant when the activity could impact on coastal waters and coastlines.

Relevant person initially consulted	Relevance to the activity	Functions, interest or activities
Ponant Luxury Expeditions	Considered Relevant Persons under Regulation 25(1)(d)	Ponant Luxury Expeditions offer sailing tours of the Kimberley. Relevant when the activity could impact on coastal waters and coastlines.
Seaestar Boat Charters	Considered Relevant Persons under Regulation 25(1)(d)	Seaestar Boat Charters provides diving and fishing experiences in the Rowley Shoals and Scott Reef. Relevant when the activity could impact on coastal waters.
Silversea Cruises	Considered Relevant Persons under Regulation 25(1)(d)	Silversea Cruises offer cruises of the Kimberley. Relevant when the activity could impact on coastal waters and coastlines.
The Great Escape Charter Company	Considered Relevant Persons under Regulation 25(1)(d)	The Great Escape Charter Company offer cruises of the Kimberley. Relevant when the activity could impact on coastal waters and coastlines.
True North	Considered Relevant Persons under Regulation 25(1)(d)	True North offer cruises of the Kimberley. Relevant when the activity could impact on coastal waters and coastlines.
Environmental Conservation Groups/ eNGOs		
Australian Marine Conservation Society (AMCS)	Considered Relevant Persons under Regulation 25(1)(d)	Australian national independent charity dedicated solely to protecting ocean wildlife and working for healthy seas with representation in WA and NT.
Conservation Council of Western Australia (CCWA)	Considered Relevant Persons under Regulation 25(1)(d)	CCWA is WA's foremost not for profit, non-government conservation and environment organisation. A current active campaign of the CCWA is Say No to Scarborough Gas. Relevant due to in principle opposition to the extraction and use of fossil fuels. Would have the potential to delay but not prevent the Project going ahead.
Environment Centre Northern Territory (ECNT)	Considered Relevant Persons under Regulation 25(1)(d)	ECNT is the peak community sector environment organisation in the Northern Territory. ECNT works closely with communities across the Northern Territory to stop environmentally destructive projects, hold government and industry to account, and improve environmental regulation and governance. ECNT has a link on its webpage to the Stop Barossa Gas campaign website which identifies the ECNT as a member of the international alliance opposing the Barossa project.

Relevant person initially consulted	Relevance to the activity	Functions, interest or activities
		Relevant due to in principle opposition to the extraction and use of fossil fuels. Would have the potential to delay but not prevent the Project from going ahead.
Environs Kimberley	Considered Relevant Persons under Regulation 25(1)(d)	Environmental NGO for the Kimberley region, including protecting the Kimberley Coast (and North Kimberley Marine Park)
Greenpeace	Considered Relevant Persons under Regulation 25(1)(d)	Independent campaigning organization that uses peaceful protest and creative confrontation to expose global environmental problems and promote solutions that are essential to a green and peaceful future.
Save the Kimberley	Considered Relevant Persons under Regulation 25(1)(d)	Independent not for profit awareness organisation run by volunteers made up of a diverse and passionate group of individuals (traditional custodians, local Kimberley community and other committed Australians from all parts).
The Wilderness Society	Considered Relevant Persons under Regulation 25(1)(d)	Public company that works to support the living world. They take on transnational corporations, rogue operators, and the armies of lobbyists and politicians who defend them in relation to projects that could affect the environment. They have been active in WA and NT in the past.
World Wildlife Fund	Considered Relevant Persons under Regulation 25(1)(d)	Independent conservation organisation for the protection of wildlife in Australia and around the world.
Other Associations		
Australian Council of Prawn Fisheries	Considered Relevant Persons under Regulation 25(1)(d)	Is made up of membership from local industry bodies and companies that deal with wild prawns or the prawn industry.
Marine Tourism Association of Western Australia (MTWA)	Considered Relevant Persons under Regulation 25(1)(d)	Represents the tourism industry in Western Australia (in the context of this project the fishing charter sector). Association currently has one Kimberley member. Relevant when the activity could impact on coastal waters and coastlines.

Relevant person initially consulted	Relevance to the activity	Functions, interest or activities
Academic and Research Organisations		
Australian Institute of Marine Science (AIMS)	Considered Relevant Persons under Regulation 25(1)(d)	Organisation concerned with conservation and research outcomes in the area.

4.8 Consultation Methodology

The approach Jadestone has undertaken for consultation in the Montara field is outlined below:

- Identify Relevant Persons (as per Section 4.5)
- Provide detailed information sheets and area map to commence the consultations via various avenues such as consultation packages and the Jadestone website
- Provide a table of risks and management measures for those seeking additional information
- Respond to requests for additional information from Relevant Persons who have concerns or interests and offer direct consultation with relevant technical staff where applicable
- Advertise and offer information sessions
- Allow a reasonable period of time for the Relevant Person to review and respond to any information provided, at least four weeks
- Follow up with Relevant Persons whose functions, interests, or activities may be affected by the activities of the EP, via phone, email/s or in person to ensure they have received the information and verify if they have remaining questions or concerns
- Ensure Relevant Persons were informed about the consultation process and how their feedback, questions and concerns were considered in the EP, including the management of sensitive information.

A number of communication methods may be used to exchange information during consultation, including:

- Written documentation or information provided in person or remotely by methods such as post, email, via website or social media; and/ or
- Verbal communication during telephone calls (pre-emptory or in response/follow up), targeted meetings, focus groups, workshops, information sessions; webinars and/or
- Other means as recommended, particularly in relation to cultural heritage values and sites.

Regardless of the method applied, the information provided to the Relevant Person has been targeted as much as possible to reduce the information burden on the Relevant Person, to reduce the possibility of confusion or misinformation, and to improve the likelihood of receiving valuable feedback from the consultation process. The methods Jadestone is using are listed below. The method/s adopted has depended on the nature and scale of an activity and advice on the most appropriate method as advised by each Relevant Person at the time of the initial consultation.

- Email
- Post
- Phone calls
- Public meetings, including by way of webinars
- For Traditional Owner Clans, presentations face-to-face on country
- Newspaper advertisements
- Social media
- Community notice boards
- Liaison with other titleholders to collaborate in undertaking consultation and thereby reduce stakeholder fatigue.

Where post is returned to sender, this is lodged and a follow up issued to the custodian of the individual licence holder database (e.g. DPIRD, AFMA) to request confirmation of the postal address. Similarly, if emails are undelivered, Jadestone make attempts to identify the correct email address to issue correspondence to and follow up with phone calls to confirm receipt if no email response is received (wherever feasible).

4.8.1 General Follow-up

Jadestone has developed a procedure (Figure 4-2) for follow-up with Commonwealth and State/Territory Government Departments, agencies, and authorities, with Local Governments, with representative peak industry bodies, with other petroleum title holders, and with businesses, including tourism businesses. It should be noted that timeframes for follow up may change depending on the nature and scale of changes to activities and information provided to each Relevant Person.

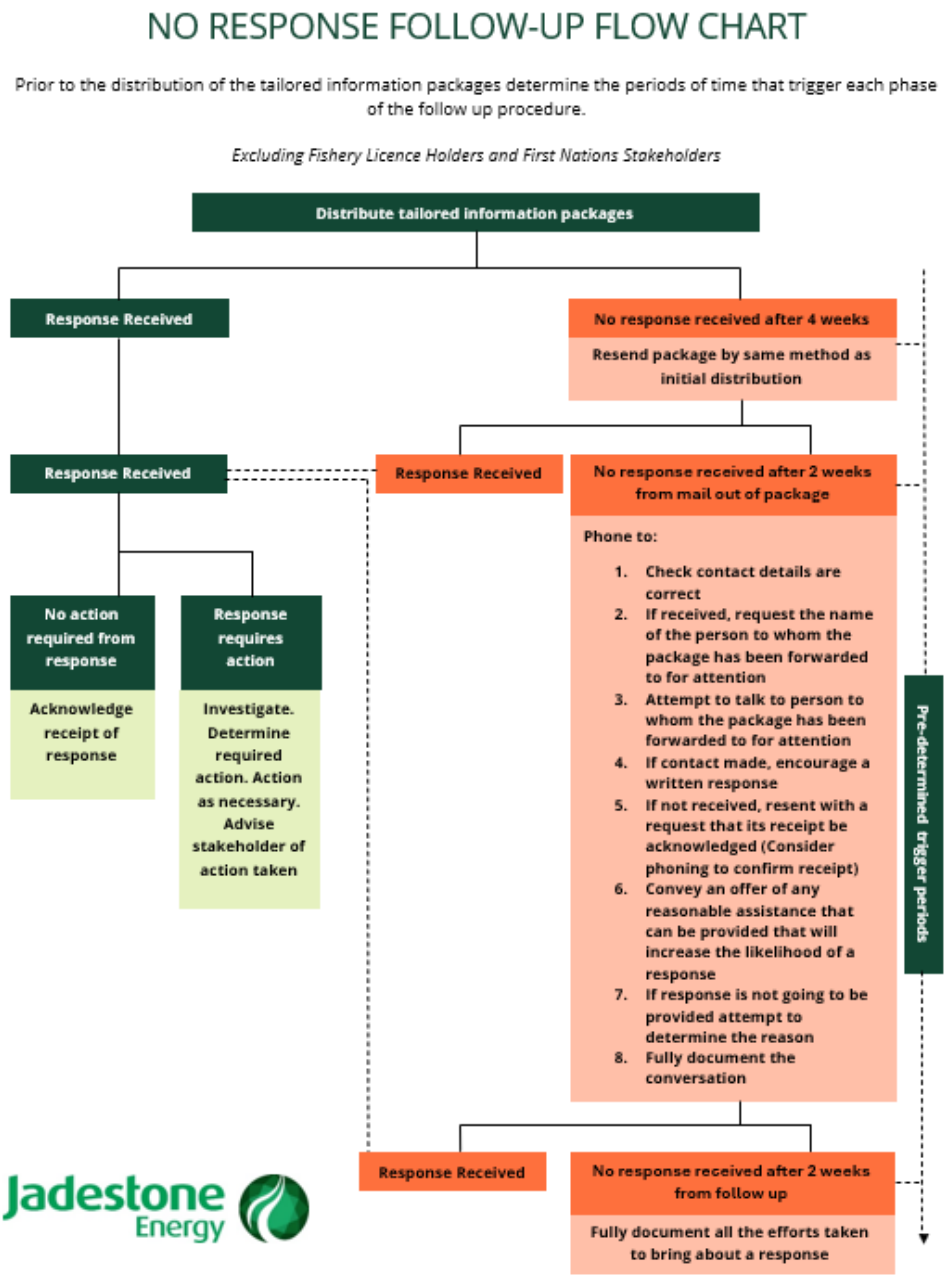


Figure 4-2: No response follow-up flow chart

4.8.2 Newspaper Advertisements

To assist Relevant Persons to self-identify display advertisements inviting consultation were placed in a number of newspapers (Appendix C) in March 2023:

- The Australian
- The West Australian
- NT News
- Koori Mail
- Kimberley Echo

To date, no responses have been identified as being elicited by the newspaper advertisements with no additional Relevant Persons self-identifying themselves.

Notifications on upcoming community engagement sessions held at various locations (refer to Table 4-3) were also advertised in the Broome Advertiser and Kimberley Echo from 14/03/2024 – 21/03/2024 to ensure relevant persons had opportunity to engage with Jadestone directly at the sessions, or through the advertisements themselves which had a QR code for the Jadestone website where key information packages and the EP are available for review.

4.8.3 Provision of Information

The OPGGS(E) requires titleholders to give each Relevant Person sufficient information to allow the Relevant Person to make an informed assessment of potential effects on their functions, interests, or activities from the activities in the EP. Provision of information is responsive and adaptive to the individual needs and circumstances of the Relevant Person seeking the information.

Updates on the Montara project, and advice about future activities have been provided via email and published on the Jadestone website. Copies of these emails (and responses from Relevant Persons) have been previously provided to NOPSEMA as a Sensitive Information Appendix under Regulation 9(8) of the OPGGS(E) and consultation specific to this EP revision has been included in Appendix C and the Sensitive Information Report submitted to NOPSEMA.

Jadestone believe that reasonable timeframes have been afforded to all Relevant Persons and is in a position to close consultation required for the development of this EP.

As at the time of this current submission Jadestone will have been attempting to consult with all Relevant Persons for over two years on activities that occur in the field.

4.8.4 Management of objections and claims

Objections or claims raised during consultation have been assessed and substantiated, as appropriate, by evidence, such as publicly available credible information and / or scientific data, including fishing data.

Where the objection or claim is substantiated, it has been assessed against Jadestone's risk assessment process and, where appropriate, controls applied to manage impacts and risks to ALARP and an acceptable level. Relevant Persons have been provided with feedback as to how their objection or claim has been assessed and if any controls were put in place to manage the risk or impact or risk to ALARP and an acceptable level. If the objection or claim is raised after the EP is accepted and triggers a revision of the EP this will be managed in accordance with Jadestone's Management of Change processes and the Relevant Person will be advised of the process.

4.9 International Consultation

The EP must demonstrate that Jadestone has consulted with Relevant Persons in accordance with regulations 25(1), which includes having consulted with each Relevant Person defined by sub regulations 25(1)(a), (b), (c), (d) and (e).

The EMBA has been used to determine the Relevant Persons for the activity. Through mapping and interrogation of databases, Jadestone is confident it has adequately identified Relevant Persons within the Australian jurisdiction.

Jadestone carefully considered its approach to consultation with international Relevant Persons and determined, for a number of reasons it is not reasonably practicable to consult with all international Relevant Persons. The EMBA just crosses over into International waters, but does not reach shorelines outside of Australia.

Likelihood of an incident

Jadestone acknowledges the Montara oil spill incident in 2009 did result in impacts to the functions, activities, or interests of seaweed farmers in Indonesia. There is, due to a number of changes since then, a very low likelihood of an incident of this size occurring again, and this EP considers the worst case to be a vessel based diesel spill.

The Australian offshore oil and gas sector has re-evaluated its operational practices and response preparedness in light of the Montara incident and the 2010 Macondo incident in the Gulf of Mexico (also referred to as the Deepwater Horizon Incident) resulting in significant changes in regulations, well integrity, employee competencies and the preparedness and response capability in the event of a loss of hydrocarbons (DISR, 2017). The establishment of NOPSEMA along with regulatory reform has resulted in a significant change to management and execution of oil and gas activities in Australia.

Following the Montara and Macondo incidents, international well integrity guidance has been updated to reflect lessons learned from these incidents.

Appeal Decision

Given the difficulty of identifying and consulting with international Relevant Persons; Jadestone have determined that consultation with such international Relevant Persons is not capable of being discharged within a reasonable time due to the “opacity as to the identity of those with whom consultations are to take place” (Appeal decision, paragraph 136), and the above described changes in legislation, the management of the activity and the low likelihood of a significant spill event occurring.

4.10 Engagement Process

4.10.1 Consultation – Current

Table 4-5 provides a summary of consultation undertaken to date for the Montara field that covers vessel based activities that may occur under this EP.

Table 4-5: Information provided to Relevant Persons

Format	Description
Consultation document	An Invitation for Consultation document was prepared and distributed. The document was prepared with sub-regulation 25(2) and associated guidance in mind to ensure it adequately described the activity, including the risks associated with the activities. The Montara Operations EP document can be found in Appendix C1 and the historical Sea Eagle and Tahbilk EP document in Appendix C2.
Individual Responses	Jadestone provided written responses to all written enquires received from stakeholders to address their specific concerns throughout the duration of EP development. A separate SIR

Format	Description
	submitted to NOPSEMA contains all individual responses provided to stakeholders as part of this process.
Mail-outs, emails and phone calls	Mailouts, emails and phone calls were used to consult with Relevant Persons as part of the development of the EP. The SIR contains all of the mail-out correspondence, emails and phone call details, captured as part of Relevant Person consultation.
Community Engagement Sessions	In summary, eight community engagement sessions were held between 19 and 25 March 2024. All sessions were advertised in newspapers, on social media and on local notice boards (where available). All Relevant Persons that Jadestone have email addresses for were also informed of the sessions to provide further opportunity for engagement.

4.10.2 Community Engagement Sessions Summary

Community engagement sessions were held in March 2024 to ensure engagement with as many members of the communities along the coastline adjacent to the larger Montara Operations EP EMBA as possible. This was undertaken to complement the extensive searches and historical engagement already undertaken to identify Relevant Persons. The sessions ensured that Jadestone are confident that all potentially Relevant Persons have been identified and provided with adequate information and a reasonable timeframe to respond in accordance with Regulation 25 of the OPGGS(E)R. The overall statistics for the newspaper and social media reach are provided in Table 4-6. Through the advertising of these sessions, there was potential for over 16,074 readers (newspaper advertisements) and over 9,136 social media users to become aware of the community engagement sessions. Although attendance at the sessions was not close to this, the QR code on the advertisements also provided quick and easy access to further information.

Table 4-6: Summary of community information session statistics

Location	Advertising			Newspaper	Attendance	
	Reach[1]	Impressions[2]	Clicks[3]	Readership	Visits[4]	Conversations[5]
Mowanjum	544	3,312	18	14,474	6	2
Derby	1,006	4,856	29		38	10
Broome	3,796	12,530	82		60	8
Bidyadanga	160	2,873	9		10	6
Beagle Bay	611	3,214	17		10	8
Djarindjin	133	1,801	8		5	1
Wyndham	541	4,511	39	1600	55	9
Kununurra	2,160	7,517	56		50	11
Kalumburu[6]	185	1,680	15		n/a	n/a
TOTAL	9,136	42,294	273	16,074	234	55

Terms used:

1. *Reach: The number of people who saw the ad at least once.*
2. *Impressions: The number of times the advertisement was seen (e.g. if 1 person sees an ad 5 times, the reach would be 1 and impressions would be 5).*
3. *Clicks (links): The number of clicks on links within the advertisement.*

4. *This refers to the number of people that walked immediately past the information session location and either engaged in a conversation or choose to walk past.*
5. *This refers to the number of people that engaged in conversation.*
6. *Kalumburu social ads were cancelled in line with visit not proceeding due to lack of interest when KRED attempted to arrange a visit.*

Overall, the areas of concern related to:

- Protection of the natural environment, in particular food sources such as fish, dugong, and turtle habitats
- Receiving timely notification of spill events when such events are predicted to move towards the communities
- Beagle Bay specifically referenced the Lacepede Islands as an area to be protected as it is considered an area of significance to the community, largely due to Green Sea Turtle and Dugong presence. No other sites of significance were identified (one member indicated some areas are private and limited to either only men or only women).

In response to the above, Jadestone have included updates to the OPEP ensuring notifications to PBCs in the event of a level 2 or 3 spill moving towards the WA coastline.

4.10.3 Current status of consultation (September 2025)

Stakeholder	Key dates and information	Next steps
All Relevant Persons excluding commercial fishing licence holders and First Nations peoples.	19 December 2023 – Information package emailed. 8 February 2023 – Follow up email sent. Week commencing 22 February 2023 – follow up phone calls commenced and ongoing. 28 July 2023 – information package with new Montara Operations EMBA emailed to all Relevant Persons and those no longer considered Relevant Persons. 14 March 2024 – email sent notifying all Relevant Persons of upcoming community consultation information sessions. 24 June 2024 – email sent notifying all Relevant Persons that Montara Operations EP has been accepted by NOPMSEMA.	If two weeks later no response had been received, Jadestone commenced follow up phone calls to determine if the contact details were correct and if the information package had been received. If not received, the information package was sent to the contact details provided on the call. This process is complete and evidence is detailed in the Consultation Report, Appendix C. Consultation complete. No further actions required.
Commercial fishing licence holders. Details of licence holders consulted as part of the initial mailout for Montara Operations are provided in the SIR.	9 January 2023 – Hard copy information package posted. 4 August 2023 – mail out information package with new Montara Operations EMBA to relevant fisheries licence holders. March 2025 – Annual check for new licence holders within largest EMBA for the Montara Field.	Consultation complete. No further actions required.

Stakeholder	Key dates and information	Next steps
Traditional Owners: Kimberley Land Council	8 March 2023 -Meeting with KLC.	As detailed in Section 4.5.4 Jadestone remain available for meetings with Directors for the following PBCs if requested: • Balanggarra Aboriginal Corporation • Mayala Inninalang Aboriginal Corporation • Wanjina-Wunggurr Aboriginal Corporation Evidence of the correspondence effort to try to organise these meetings is detailed in Appendix C and the Sensitive Information Report. Consultation complete. No further actions required.
Community Engagement Sessions	19 March 2024 – 25 March 2024: Community presentations held in Mowanjum, Derby, Broome, Bidyadanga, Beagle Bay, Djarindjin, Wyndham and Kununurra. Further details provided in 4.5.5	No further actions required. Information provided to three people who requested information packs following the sessions.

4.11 Reasonable period

Recipients of the Invitation for Consultation document for the Montara field were encouraged to provide comment within a six-week period, allowing time for postal letters to be delivered and potential return posts to be received, as well as a timeframe for consideration of a response. Comments provided outside of this time were still considered and incorporated into the approvals process wherever practicable. Following this period, email reminders and phone calls were undertaken to remind Relevant Persons to respond, and Jadestone afforded a further four weeks to those Relevant Persons.

The EP includes emergency response plans. Pursuant to the environment regulations, Commonwealth, and State and Territory Government departments, agencies and authorities have been, and will continue to be, consulted on response preparedness for an uncontrolled discharge of oil from vessels or the well. Allowing a further six- week timeframe for response. This marks over two years of consultation efforts with the majority of Relevant Persons for activities in the Montara field.

4.12 Assessment of Relevant Persons Objections and Claims

Prior to engaging with Relevant Persons, Jadestone reviewed the comments, objections and claims raised through the previous Montara Operations EPs.

For all responses received by Jadestone during the engagement, the merit of each of these responses was assessed. Assessment of merit for current consultation (post the Decision) for all Relevant Persons is found in Appendix C1. However, as relevant, the required changes have been incorporated into the Montara Sea Eagle and Tahbilk EP and OPEP.

Consultation undertaken prior to this time has been reported in other EPs prepared for the Montara Project, along with all of Jadestone's and previous Montara titleholders accepted EPs and can be viewed on the NOPSEMA website.

Where an objection or claim was raised by a Relevant Person, they were provided feedback as to how it was assessed, whether the objection or claim was substantiated, and if so, if any additional controls were put in place to manage the impact or risk to ALARP and an acceptable level.

Where an objection or claim was substantiated by evidence such as publicly available credible information and/or scientific data, including fishing data, this was assessed as per the risk assessment process detail in Section 5 and controls applied where appropriate to ensure impacts and risks are managed to ALARP and an acceptable level.

Copies of the full text of any responses by Relevant Persons have been provided to NOPSEMA as a Sensitive Information Appendix under Regulation 9(8) of the OPGGS(E).

Consultation demonstration statement.

The Jadestone consultation report (Appendix C1), includes a summary of consultation (including details of the consultation effort and relevant person responses and an assessment of merit (Relevant Person objections, claims or other feedback, titleholder assessment of merit, titleholder statement of response and details of the measures adopted) following the template in NOPSEMA document N-04750-FM2281 *'Titleholder report on consultation in the preparation of an Environment Plan'* for each Relevant Person.

Jadestone can provide a consultation demonstration statement, for each Relevant Person as follows:

- sufficient information has been provided to the relevant person to allow an informed assessment of the possible consequences of the activity on their functions, interests or activities (regulation 25(2)); and
- a reasonable period has been allowed for the relevant persons to consider the information, make an informed assessment and engage in a genuine two-way dialogue with the titleholder (regulation 25(3)).

4.13 Ongoing Consultation with Relevant Persons

Jadestone will continue to consult with Relevant Persons by providing project updates where necessary or considered relevant as information becomes available, including updates in relation to specific activities and broader project information, via emails and the provision of information on the Jadestone website.

Table 4-7 outlines the ongoing consultation (and timing) requirements for the activity. Records of ongoing Relevant Person consultation are maintained in Jadestone's electronic Document Management System (eDMS). Any changes to the activity that could result in a significant change to the interests, functions, or activities to Relevant persons will be subject to Jadestone's Management of Change process (Section8.4.1) in order to determine if Relevant Persons and potentially Relevant Persons would be significantly affected by the change. If so, additional information will be provided to Relevant Persons and any potentially Relevant Persons for the purpose of seeking feedback on the proposed changes.

The purpose of ongoing consultation is not to elicit further information for the management of the activity, but rather to maintain relationships and notify Relevant Persons of any significant changes to the activity or risk.

Any potentially new Relevant Persons or changes to existing Relevant Persons will be identified through ongoing consultation through the EP review process, in accordance with Section 4.5. Where potentially new Relevant Persons are identified, they will be contacted and provided information about the activity relevant to their functions, interests, or activities. Any objections or claims will be managed as per Section 4.8.4.

Jadestone will undertake additional triggered consultation as outlined in Table 4-8, should an unplanned event occur.

Whilst Jadestone considers that, for the purpose of this EP, its consultation is now complete it is committed to continue their efforts to consult with each of the Traditional Owner Relevant Persons that have been identified. As a result of the community engagement sessions and the presentations to PBCs that have already occurred, and any presentations to PBCs that may occur in the future, Jadestone will make any necessary amendments to its ongoing consultation strategy.

Presently the ongoing consultation strategy includes attendance at appropriate community forums, meetings with the Directors and Elders of the PBCs as needed, meetings with Australian Energy Producers (AEP) and other titleholders.

As part of ongoing consultation for Montara Operations six monthly PBC contact detail checks have been undertaken in November 2024 and June 2025 and annual fisheries licence holder updates undertaken in March 2025.

Table 4-7: Standard consultation actions

Activity	Frequency and method	Responsibility
Provision of updates on activity progress.	Updates to Jadestone website on the Montara Operations activity provided as needed.	HSE Manager
Review of Relevant Persons list.	Annually unless triggered earlier. Review the list of Relevant Persons within the EMBA to confirm relevance and any updates due to responses received through the consultation mailbox.	Country Manager
Confirmation of fishery licence holders within EMBA.	Annually – request contact details of fishers within the operational area and EMBA, compare against database for any additions to the list. Provide information package via post.	Country Manager
Notify PBCs of acceptance of EP and provide NOPSEMA's Statement of Reasons.	Within 4 weeks of EP acceptance.	HSE Manager
Review of PBC contacts within EMBA.	Every 6 months, Jadestone will contact PBC to attempt to confirm contact name and details of PBCs to ensure strong relationship is maintained.	HSE Manager
Provision of broader information relating to Jadestone environmental policy.	Website updates as required.	Country Manager
Notification of commencement of activity to Australian Hydrographic Office (datacentre@hydro.gov.au)	4 working weeks prior to operations commencing	HSE Manager
Notification of AMSA Joint Rescue Coordination Centre (JRCC).	24-48 hours prior to commencement and cessation of operations.	HSE Manager
Notification of updates to AHO and JRCC on progress and changes to intended operations.	Notifications as required.	HSE Manager

In addition, Jadestone will undertake additional triggered consultation as outlined below, (Table 4-8).

Table 4-8: Triggered consultation actions

Trigger	Action	Responsibility
Feedback received from Relevant Person.	Follow consultative process outlined in the Jadestone Stakeholder Management Plan (SMP) (JS-70-PR-I-00034) to understand if a revision to the EP is required.	Country Manager
Meeting with PBC identifies new information not currently addressed in EP.	Follow Jadestone Management of Change process to identify if a change to the EP is required. Log correspondence.	HSE Manager
Significant deviation to Montara operations from those originally provided in consultation.	Notification to Relevant Persons via email. Email DPIRD stakeholder contact a minimum of 4 weeks prior to commencement of any varied activity. Notify AMP Director General any change to risk within AMPs. The deviation will be assessed through the Management of Change procedure to understand which other Relevant Persons and potentially Relevant Persons may need to be notified.	Country Manager
Change to risk profile in operational area.	The deviation will be assessed through the Management of Change procedure to understand which Relevant Persons and potentially Relevant Persons may need to be notified describing the change in risk profile and proposed risk management.	Country Manager
Change to risk profile in EMBA.	The deviation will be assessed through the MOC procedure to understand which Relevant Persons and potentially Relevant Persons may need to be notified describing the change in risk profile and proposed risk management.	HSE Manager
Oil spill event.	• Notification to response agencies and government agencies by phone. • Attempt to electronically notify all Relevant Persons listed in Table 4-4 as soon as possible. • Ongoing updates and communication in accordance with requirements and response procedures. • Notification of DPIRD via environment@fish.wa.gov.au within 24 hours of incident report. • Notify AMP Director General within 24 hours of incident report and prior to spill response activities within AMP on 0419 293 465. To include titleholder details, time and location of the incident, proposed response arrangements and locations as per the OPEP and contact details for the response coordinator.	IMT Lead
AMP access.	Notify AMP Director General of SMP (or other response activities) within AMP 10 days prior to entering (where possible) and at the cessation of activities in AMPs.	IMT Lead
Biosecurity incident: suspected marine pest or disease.	Notification of DPIRD via aquatic.biosecurity@dpird.wa.gov.au or 1800 815 507 within 24 hours.	HSE Manager
Change to Offshore Petroleum Greenhouse Gas Storage (Environment)	Review of SMP.	HSE Manager

Trigger	Action	Responsibility
Regulations 2023 consultative requirements.		
Change to Montara operating jurisdiction such that other legislative instruments stipulate new or additional consultative requirements.	Review of SMP.	HSE Manager
An element of Jadestone's continuous improvement process identifies the consultation procedure needs to be amended.	Review of SMP	HSE Manager
Change to infrastructure that affects Petroleum Safety Zone (PSZ).	Notify the Australian Hydrographic Service of activities and infrastructure for inclusion in Marine Notices.	HSE Manager

4.14 Environmental Performance

Hazard		**Relevant Person consultation**		
Performance outcome		**Relevant Persons are kept informed of activities**		
ID	**Management controls**	**Performance standards**	**Measurement criteria**	**Responsibility**
001	Stakeholder Management Plan (JS-70-PR-I-00034)	Relevant Persons identified according to current Regulatory requirements.	Consultation records.	HSE Manager
002		Relevant Persons provided a minimum 4-week period to respond to stakeholder information issued on the proposed planned activities and followed up in accordance with the Plan.		
003		If there is a potential significant change in the risks or impacts to Relevant Persons due to planned activities the Relevant Persons are to be consulted prior to the activity commencing.		

5. EVALUATION OF ENVIRONMENTAL IMPACTS AND RISKS

As required by Regulation 21(5) of the OPGGS(E) Regulations, this section of this EP provides an outline of Jadestone Energy's approach to the evaluation of impacts and risks due to the VBA (Section 5.1), and the outcomes of the impact and risk assessment undertaken (Section 5.6).

5.1 Assessment Method

The environmental impacts and risks associated with the proposed VBA in production licence AC/L7 and AC/L8 have been assessed using the Jadestone Impact and Risk Management Framework (JS-70-PR-F-00009) and methods consistent with HB 203:2012 and AS/NZS ISO 31000:2009.

'Impact' is evaluated in terms of the extent, duration, severity and certainty pertaining to the effect that will or may occur in the environment due a planned event associated with the activity.

'Risk' is evaluated in terms of likelihood and consequence. Likelihood is defined as the probability or frequency of the unplanned event occurring, and consequence, like 'impact', is defined as the extent, duration, severity and certainty pertaining to the effect that will or may occur in the environment due to the event associated with the activity.

The assessment methodology provides a framework to demonstrate:

- That the identified impacts and risks are reduced to as low as reasonably practicable (ALARP) (Regulation 34(b)); and
- The impacts and risks are acceptable (Regulation 34(c)).

The impact and risk management process is shown in Figure 5-1.

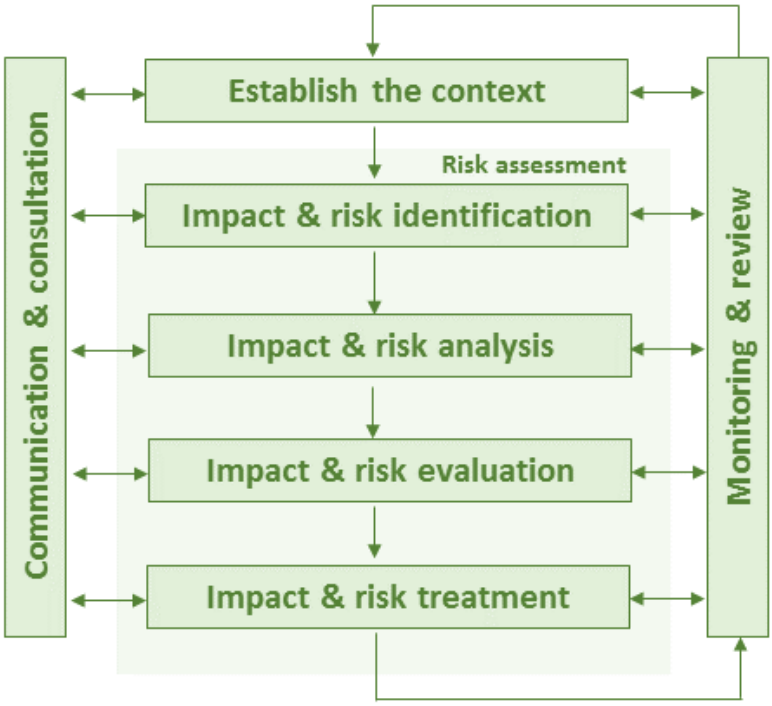


Figure 5-1: Impact and risk evaluation process

Further detail on the steps involved in the impact and risk evaluation process is provided below.

5.2 Risk Assessment

The assessment process evaluates impacts and risks associated with planned and unplanned events that will or have the potential to impact the environment. Impacts and risks are identified through several activities:

- The Risk Workshop was attended by a team that includes relevant technical knowledge and experience in the activities being assessed;
- Information relating to previous environmental performance relevant to the activity being assessed such as findings of audits and inspections, incident investigations and performance reports;
- Consultation with relevant persons; and
- Industry related information of exploration and production activities relevant to the activity being assessed.

Analysis of the impacts and risks identified for the activity includes steps intended to treat the impacts and risks to levels that are acceptable and as low as reasonably practicable for the business. The steps are:

- Identification of appropriate control measures (preventative and mitigative) to treat likelihood and consequence; and
- Determination of the residual impact/risk ratings (Section 5.5).

5.2.1 Identification of control measures

The following framework tools are applied, as appropriate, to assist with identifying control measures:

- **Legislation, Codes and Standards** – identifies the requirements of legislation, codes and standards which are to be complied with for the activity;
- **Good Industry Practice** – identifies further engineering control standards and guidelines which may be applied over and above that required to meet the legislation, codes and standards;
- **Professional Judgement** – uses relevant personnel with the knowledge and experience to identify alternative controls. When formulating control measures for each environmental impact or risk, the 'Hierarchy of Controls' philosophy (see below) is applied. This Hierarchy is used in the industry to minimise or eliminate exposure to impacts and risks;
- **Risk Based Analysis** – assesses the results of probabilistic analyses such as modelling, quantitative risk assessment and/or cost benefit analysis to support the selection of control measures identified during the assessment process;
- **Company Values** – identifies values referenced in Jadestone Energy's HSE Policy; and
- **Societal Values** – identifies the views, concerns and perceptions of relevant persons and addresses their concerns as gathered through the ongoing consultation process.
- The Hierarchy of Control philosophy is used by Jadestone Energy to help evaluate potential management controls to ensure alternative reasonable and practicable solutions have not been overlooked:
- **Elimination –** it is preferable to remove the impact or risk altogether;
- **Substitution –** substitute the impact or risk for a lower one;
- **Engineering control measures** – use engineering solutions to prevent or detect the hazard or control the severity of consequences/ impacts;
- **Administrative control measures** – use of procedures, JHA etc. to assess and minimise the environmental impacts or risks of an activity; and
- **Protective** – use of protective equipment (e.g. the use of appropriate containers).

5.2.2 Risk ranking process for unplanned events

Risks are ranked using the Jadestone Qualitative Risk Matrix (Table 5-1). Environmental ranking of a measure between **Low** to **Extreme** is determined by evaluating the likelihood of the unplanned event occurring, and evaluation the expected severity of the consequence with standard expected control measures in place.

Table 5-1: Jadestone Qualitative Risk Matrix

Rating		Consequence				
		Negligible	Minor	Moderate	Major	Critical
Likelihood	Expected	Medium	Medium	High	Extreme	Extreme
	Probable	Medium	Medium	Medium	High	Extreme
	Likely	Low	Medium	Medium	Medium	High
	Unlikely	Low	Low	Medium	Medium	Medium
	Rare	Low	Low	Low	Medium	Medium

Consequence levels for unplanned events are assigned based on the expected extent of area that may be affected, the duration of effect and the severity of the effect. A consequence level of **Negligible** to **Critical** may be assigned (

Table 5-2).

Table 5-2: Definition of consequence level

Consequence	**Consequence description**	**Socio-economic**
5. Critical	Massive effect; recovery in decades; ecosystem collapse	Extensive damage International impact
4. Major	Major effect; recovery in 1 to 2 years; impact to population	Major damage National reputation impact
3. Moderate	Local effect; recovery in months to a year; impact to localised community	Local damage Considerable reputation impact
2. Minor	Minor effect; recovery in weeks to months; death of individuals	Minor damage Limited reputation impact
1. Negligible	Slight effect; recovery in days to weeks; injury to organism	Slight damage Slight reputation impact

Likelihood levels for unplanned events are assigned based on preceding performance in relation to the specific activity, within the region or in industry. A likelihood level of **Rare** to **Expected** may be assigned to unplanned events (Table 5-3).

Table 5-3: Definition of likelihood levels

Likelihood	
5. Expected	Happens several times a month in similar exploration and production operations
4. Probable	Happens several times a year in similar exploration and production operations
3. Likely	Event has occurred in similar exploration and production operations
2. Unlikely	Heard of in the exploration and production industry
1. Rare	Never heard of in the exploration and production industry

Once assessed and treated, an assessment as to whether the risks recorded can be demonstrated as being acceptable and ALARP is made. The processes for determining if risks and impacts have been reduced to ALARP and acceptable levels are described below.

5.3 Impact Assessment

Environmental impacts that will occur as a result of planned activities may cover a wider range of issues, multiple species, persistence, reversibility, resilience, cumulative effects and variation in severity. The degree of impact and the corresponding level of acceptability is assessed against several guiding principles:

- Principles of ecologically sustainable development (ESD);
- Conservation and management advice;
- Stakeholder feedback;
- Reputational ramifications;
- Environmental context; and
- Jadestone's HSE Policy and Management System.

The application of the guiding principles within the acceptability matrix are outlined in Table 5-4.

The following process has been applied to demonstrate acceptability in the reduction of planned impacts:

- **GREEN** residual impacts are Tolerable, if they meet management requirements, stakeholder requirements, environmental context, and the Jadestone Energy HSE Policy and management system requirements; and
- **ORANGE** residual impacts are Intolerable and therefore unacceptable. Planned impacts with this rating will require further investigation and mitigation to reduce them to a lower and acceptable level. If after further investigation the impact remains in the unacceptable category, the impact requires appropriate business sign-off to accept the impact.

A reduction of impacts to as low as reasonably practicable (ALARP) follows the process described in Section 5.5.

5.4 Demonstration of Acceptability

An acceptable level of risk of an unplanned event occurring must be scored with a low or medium rating. Risks receiving a score of high (orange) or extreme (red) risk ratings in Table 5-4 are unacceptable. For those risks found to have an unacceptable rating, a return to the planning process for the activity is required to determine if an alternative approach to undertaking the activity can be identified.

Table 5-4: Jadestone Energy's acceptability matrix

Guiding principles		Impact level				
		1	2	3	4	5
A	Principles of ESD	Discharges/ emissions have slight effect – recovery in days to weeks	Discharges/ emissions have minor effect – recovery in weeks to months	Discharges/ emissions have local effect – recovery in months to a year	Discharges emissions have major effect – recovery in multiple years	Discharges emissions have catastrophic effect – recovery in decades
B	Conservation and management advice	Activity does not contact/ interact with sensitivities protected by conservation and management advice	Activity Triggered and adopts conservation and management advice of affected sensitivities	Activity must be modified to uphold conservation and management requirements of affected sensitivities	Activity as planned cannot uphold conservation and management requirements of affected sensitivities	Activity as planned will contravene conservation and management requirements of affected sensitivities
C	Stakeholders	No issues raised by stakeholders	Concern/ query received by stakeholders due to activity	Delay in commencement of activity due to stakeholder consultation	Modification of planned activity to achieve negotiated outcome	Executive involvement in resolving stakeholder concerns
D	Reputation	Slight impact – no media coverage	Limited impact – State media coverage	Considerable impact – national coverage	National impact – persistent national coverage	International impact – international coverage
E	Environmental context	Slight effect – recovery in days to weeks	Minor effect – recovery in weeks to months	Local effect – recovery in months to a year	Major effect – recovery in multiple years	Catastrophic effect – recovery in decades
F	Policy and Management System compliance	Proposed activity complies with JSE HSE Policy and Management System	Parts of the activity will not align with JSE HSE Policy and Management System	Proposed activity must be modified to align with JSE HSE Policy and Management System	Proposed activity cannot uphold intent of JSE HSE Policy and Management System	Proposed activity does not comply with JSE HSE Policy and Management System

5.5 Demonstration of as Low as Reasonably Practicable (ALARP)

Regulation 34(b) of the Environment Regulations requires a demonstration that risks are reduced to ALARP.

The ALARP principle states that it must be possible to demonstrate that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained. The ALARP principal arises from the fact that infinite time, effort and money could be spent attempting to reduce a risk to zero. An iterative evaluation process is employed until such time as any further reduction in the residual ranking is not reasonably practicable to implement. Following identification of the residual ranking, the ALARP principle is applied:

Where the residual rank is **LOW** as:

- Good industry practice or comparable standards have been applied to control the risk, because any further effort towards reduction is not reasonably practicable without sacrifices grossly disproportionate to the benefit gained.

Where the residual rank is **MEDIUM**:

- Good industry practice is applied for the impact or risk; and
- Alternatives have been identified and the control measures selected to reduce the risks to ALARP. This may require assessment of company and industry benchmarking, review of local and international codes and standards, consultation with stakeholders, etc. to demonstrate that alternatives have been considered, and reasons for adoption/rejection provided.

Where the residual rank is **HIGH** or **EXTREME,** the risk is not considered to be acceptable and the activity cannot continue as described. Further control measures must be applied such that an acceptable risk is demonstrated; and the residual risk is reduced to 'Medium' or lower as described above. The activity should not be carried out if the residual risk remains 'High or Extreme'.

The process of evaluating the reduction of risks to ALARP is illustrated in Figure 5-2.

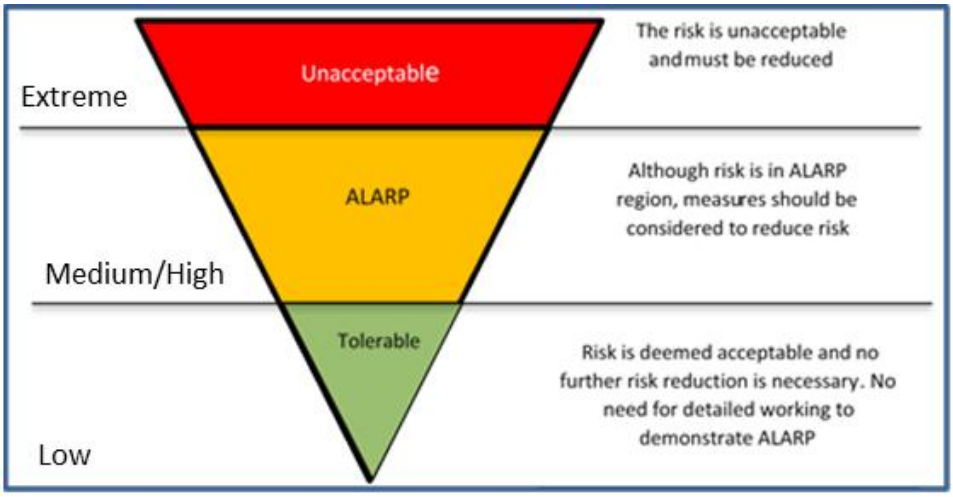


Figure 5-2: ALARP triangle

5.6 Evaluation Summary

An impact and risk assessment was conducted by Jadestone Energy in August and September 2021 to reflect the Jadestone Energy Impact and Risk Management Framework (JS-70-PR-F-00009). The assessment was undertaken by a multidisciplinary team with sufficient breadth of knowledge, training and experience

to reasonably assure that risks and impacts were identified and assessed. The assessment team included management, maintenance, emergency response and environmental personnel.

The assessment process undertaken by Jadestone Energy for the VBA identified six planned aspects and six unplanned hazards and their associated environmental impacts and risks that will or may occur during the activities.

The output of the assessment process is documented in this EP and summarised in Table 5-5 .

Table 5-5: Summary of the environmental impact and risk assessment rankings for aspects and hazards associated with planned activities and unplanned events during the VBA

Aspect/Hazard	Residual Assessment
Planned activities	
1. Physical presence – other users, marine fauna, seabed disturbance	Acceptable
2. Light emissions	Acceptable
3. Noise emissions	Acceptable
4. Atmospheric emissions	Acceptable
5. Operational discharges	Acceptable
6. Spill response activities	Acceptable or Low
Unplanned events	
1. Marine pest introduction	Medium
2. Interaction with fauna	Low
3. Unplanned release of solids	Medium
4. Unplanned release of (non-hydrocarbon) liquids	Low
5. Worst case spill hydrocarbon spill	Low

5.7 Risk Assessment Approach for Worst-case Hydrocarbon Spill Response

The risk assessment approach for the worst-case hydrocarbon spill response requirements follows the risk assessment process as described above, with additional steps and considerations to determine an environmentally acceptable oil spill response strategy and an ALARP level of response preparedness:

1. Determine threshold concentrations to be used in oil spill modelling to define the Ecological EMBAs as per NOPSEMA Bulletin #1;
2. Determine the environment that may be exposed (EMBA);
3. Determine the environmental receptors that may be affected within the EMBA as per Appendix B;
4. Identify sensitive receptors;

5. Determine priority receptors; and
6. ALARP and acceptability evaluation for spill response activities.

5.7.1 Determine Oil Spill Modelling Thresholds

Threshold concentrations for each of the hydrocarbon component types (floating oil, entrained oil and dissolved aromatic hydrocarbons) are specified as inputs for the model to determine what potential exposure is recorded for each hydrocarbon type and the receptor/location, to ensure that potential exposure is assessed as per NOPSEMA Bulletin #1.

5.7.2 Determine the EMBAs

The EMBA for hydrocarbon concentration thresholds for the worst-case spill scenario for this EP is shown in Figure 3-1 and described in Appendix B. These contact concentrations are used to describe potential exposure to receptors at risk from the worst-case credible spill scenario. A description of the worst-case credible spill scenario resulting in the EMBA is provided in Section 7.5**.**

5.7.3 Determine the impact threshold

Threshold concentrations for each of the hydrocarbon component types (shoreline accumulated oil, floating oil, entrained oil and dissolved aromatic hydrocarbons) are specified as inputs for the model to determine what contact is recorded for each hydrocarbon type and the receptor/location, to ensure that recorded contacts are assessed at environmentally meaningful concentrations. Meaningful concentrations are those concentrations at which environmental (or biological) impacts may occur, and at which societal values (e.g. visual aesthetics, economics) may be impacted.

The determination of environmentally meaningful impact thresholds is complex since the degree of impact will depend on the sensitivity of the value, the duration of the contact (exposure) and the toxicity of the hydrocarbon mixture making the contact. The chemical and physical properties of a hydrocarbon change over time due to weathering processes altering the composition. To ensure conservatism in defining the subsequent impact/risk assessment, the threshold concentrations applied to the model are based on the most sensitive environmental resources that may be exposed, the longest likely exposure times and on toxicity information for the hydrocarbon. Impact pathways and impact threshold concentrations are detailed in Appendix F.

5.7.4 Sensitive Receptor Identification

Jadestone Energy has generated spatial layers of known environmental and socio-economic values within the marine and coastal environment in WA State, Northern Territory, Commonwealth and adjacent international jurisdictions, to identify sensitive receptors (locations with highest environmental and/ or socio-economic values relative to other locations). The EMBA is overlaid as a boundary to identify the sensitive receptors that exist within.

Sensitive receptor assessment considers:

- **Protected Area Status**: used as an indicator of the biodiversity values contained within that area e.g. World Heritage Areas, Ramsar sites and Marine Protected Areas;
- **Biologically Important Areas (BIA) of Listed Threatened and Migratory Species:** these are spatially defined areas where aggregations of individuals of a species are known to display biologically important behaviour such as breeding, feeding, resting or migratory;
- **Social values**: socio-economic and heritage features (e.g. commercial fishing, recreational fishing, amenities and aquaculture);
- **Economic values**: recreational and commercial fishing areas;

- **Listed species status and predominant habitats (surface versus subsurface)**: critically endangered/ endangered species, listed species, surface species (e.g. reptiles and birds) and subsurface species (e.g. mammals, sharks and fish); and
- Recovery Plans, Conservation Advice for threatened species.

Once the sensitive receptors within the EMBA have been identified, the potential oil pollution risks are described and evaluated (refer Section 7.5.4). In addition, the environmental risks from implementing spill response activities are described and evaluated.

Sensitive receptors are further evaluated by considering what values are contained within them when determining appropriate spill response strategies (refer 6.6). This informs the Oil Pollution Emergency Plan (OPEP) and guides spill response preparedness and planning.

The next step is to determine those sensitive receptors within the EMBA that are considered the highest risk from the worst-case credible oil spill scenario and are common across ALL modelled scenarios and seasons, that is, the priority receptors.

5.7.5 Priority Receptors

It is important to note that in the event of a single worst-case hydrocarbon spill, not all sensitive receptors and areas within the EMBA will be exposed or contacted at the same time or at all. Instead, the EMBA is a collation of numerous possible scenarios (generally 100 or more) to develop the areas for focus in response preparedness and strategic planning. As such, only a portion would be contacted during a spill event.

It is best practice to develop spill response strategies for those areas most likely to be contacted in a single maximum credible worst-case spill. To be able to develop these strategies, the sensitive receptors in the EMBA and their vulnerability to a hydrocarbon event (considering nature and scale of spill) need to be understood. A critical first step is to identify these areas – a concept termed here as 'priority receptors'. The selection of priority receptors is based on stochastic modelling of multiple hydrocarbon spills.

Defining priority receptors determines the scale and needs of the oil spill response strategy. Thus, priority receptors (as a subset of all the sensitive receptors present within the full extent of the EMBA) specific to a particular spill are selected using the following criteria:

- Sensitive receptor within EMBA; AND
- >5% probability of shoreline contact based on modelling results; OR
- Has the largest volume of floating oil shoreline contact; OR
- Has the shortest timeframe to floating oil shoreline contact; OR
- Vulnerability to impact from hydrocarbons – e.g. mangroves are more vulnerable than intertidal rock pavement; known turtle nesting beaches are vulnerable during nesting periods2; AND
- Any other area of interest within the EMBA including areas that have a high social value or are a concern raised through stakeholder consultation (refer Section 4).

It is logical and best practice to focus spill response planning and strategies on those locations most likely to be contacted in the credible worst-case oil spill scenario; that is, the scenario that represents the highest risk across all modelled scenarios covering any season, rather than attempt to cover the full spatial extent

[2] IPIECA, the global oil and gas industry association for environmental and social issues, the International Maritime Organisation (IMO) and International Association of Oil and Gas Producers (OGP) developed a guidance document for 'Sensitivity mapping for oil spill response' IPIECA/IMO/OPG (2012). This document was used as a reference and basis for the sensitivity of habitats vulnerability assessment.

of the EMBA. This allows for flexibility in response planning as plans are developed for environmental resources at greatest risk of being contacted by an oil spill and can be adapted for any scenario that occurs.

The evaluation of priority receptors is based upon stochastic modelling of multiple hydrocarbon spills. The focus for spill response planning and preparedness is based upon the level of risk (probability of contact, vulnerability to hydrocarbons, time to contact and volume/concentration of loading). Response Plans are based on the nature and scale of the worst-case modelled hydrocarbon event for each Protection Priority, which includes estimation of shoreline loading volume and time to contact without consideration of response strategies interventions, which are provided in the OPEP.

For the purposes of spill response preparedness strategies, it is not necessary for all priority receptors to have specific operational response plans in place. For example, wholly submerged priority receptors may only be contacted by entrained oil, and the response will largely be the implementation of scientific monitoring to assess impact and recovery. Priority receptors with emergent features can have response actions prepared.

5.7.6 ALARP and Acceptability Evaluation for Spill Response

Jadestone Energy applies a robust and systematic process to ensure that credible spill scenarios are adequately evaluated, to promote a clear link between the nature and scale and the priority receptors, and, to ensure that effective control measures exist to mitigate environmental risks and impacts to a level that is ALARP and acceptable. This process is depicted in Figure 5-3.

The process promotes a clear link between the nature and scale of the maximum credible worst-case spill scenario and the identified priority receptors to ensure that selected response strategies are appropriate and demonstrated to be effective and adequate.

As part of the risk assessment process, the spill response strategies selected are evaluated for their environmental impact (Figure 5-4).



Figure 5-3: Spill scenario evaluation and ALARP determination process

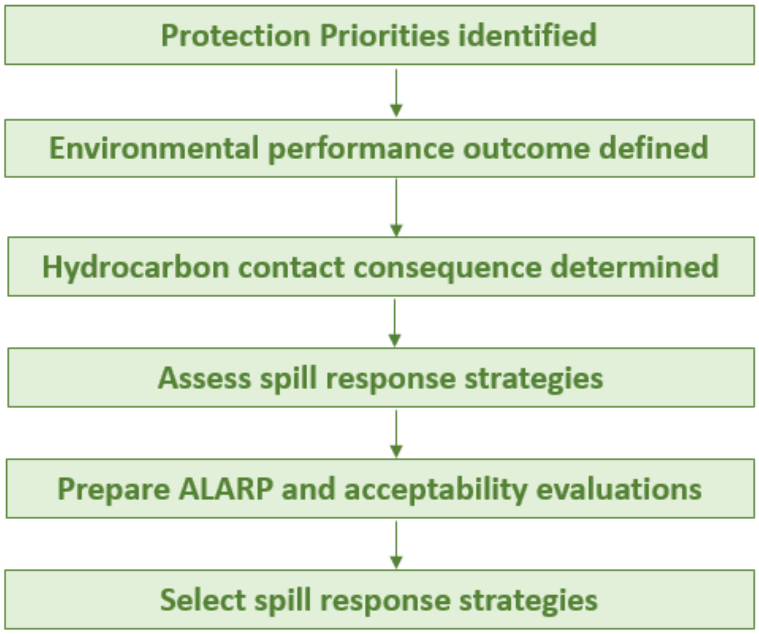


Figure 5-4: Spill control analysis and ALARP determination process

6. ASSESSMENT – PLANNED ACTIVITIES

6.1 Physical Presence

6.1.1 Description of aspect

Physical presence	The wellheads remain in situ for the duration of the EP with activities occurring at the surface and seabed. No additional seabed disturbance will occur from their presence, and they are marked on nautical charts. The remote monitoring system will not require any equipment installed on the seabed The presence of vessels will be intermittent over the life of the EP with the vessel on location for a maximum of 2 days in 2022 (at the earliest) for the installation activity, and for <0.5 days within every 12-week period for visual observations until the system is installed. Thereafter, annual vessel visits of <24 hours at each well location are planned. A 500 m Petroleum Safety Zone (PSZ) is present around the vessel when undertaking VBA at the wellhead locations (other than the regular vessel-based inspections undertaken for <0.5 days each time) to ensure restricted and controlled vessel access within close proximity of the facilities. The physical presence of the vessel and temporary PSZ result in the preclusion of other users including commercial and recreational fishers, and commercial shipping traffic, to use the area for their purposes. The wellhead presence will also prevent trawling activities over the infrastructure for the duration of the EP due to the snagging hazard. The physical presence of infrastructure may alter marine fauna behaviour such as avoidance or attraction. The installation of monitoring equipment and ROV activities will result in a temporary increase in turbidity close to the seabed but no equipment is planned to be installed on the seabed. Marine growth removal during annual ROV surveys would be minimal and would result in removal of small parts of the surface community from the wellheads and monitoring system, and some subsequent seabed disturbance as the marine growth settles. The area alongside the wellheads has previously been disturbed (i.e. during previous drilling activities) No vessels anchor within the Operational Area unless in emergency. Helicopters operating at low altitude during ascent from and descent to the helidecks or conducting in-field observations also have the potential to disrupt the behaviour of marine fauna due to the effects of noise. Avoidance behaviours in response to vessel and helicopter noise are assessed separately in Section 6.3**.**

6.1.2 Impacts

Sensitive Receptor	**Impact description**
Social receptors	
Fishing Shipping	Interaction between the vessels and other marine users is expected to be minimal due to the remote location and low fishing effort expended within the Operational Area. The wellheads have been present since 1990 (Tahbilk) and 2008 (Sea Eagle) and marked on nautical charts. In the immediate vicinity, the greater Montara facilities and PSZs have been established and effective since 2012. Any overlap with active fisheries is relatively small, with only the Northern Demersal Scalefish Managed Fishery having recent catch returns for the Operational Area or its immediate vicinity. The wellheads and PSZ (when established for VBA occurring on location) represents a very small part of the Northern Demersal Scalefish Managed Fishery licenced area, with numerous alternatives available. There is the potential for interactions between fishing activities and vessels.

Sensitive Receptor	Impact description
	The temporary presence of the 500 m PSZ exclusion area around the wellheads during VBA, and the movement of vessels, present obstacles for shipping traffic in the region and are potential navigational hazards and a collision. The Operational Area is located northwest of the nearest designated shipping route with heavy vessels utilising the Osborne Passage in the northern part of the permit areas, however it is not anticipated there will be high commercial shipping traffic in the Operational Area or immediate surrounds (refer to Section 3.4 and Figure 3-9 for details on commercial shipping, including designated shipping routes) (AMSA, 2012). Any detour by shipping traffic that may occur is considered negligible in comparison to the area available for vessels to navigate through. As such impacts to other users are considered ***negligible***.
Environmental receptors	
Seabirds, cetaceans	Fauna most susceptible to impacts from the temporary physical presence of vessels and helicopters include birds, and cetaceans. Migratory species such as seabirds may experience localised and short-term effects through behavioural changes; such as resting or roosting on the vessel on location during monitoring system installation or changed feeding patterns in nearby waters in response to other factors such as attraction of fish to the infrastructure (Verhejen, 1985; Weise et al. 2001) with subsequent short-term positive effects. This is predominantly attributed to the observation that structures in deeper water environments tend to aggregate marine life at all trophic levels, creating food sources and shelter for seabirds (Surman, 2002). Behavioural changes could affect the size and composition of the seabird community in the local area. Birds striking infrastructure, causing injury/mortality, may cause a minor disruption to a small proportion of the population. The only known biologically important areas (BIAs) that overlap the Operational Area are the most northern part of the whale shark foraging BIA as described in Section 3. However, only occasional individuals are expected to traverse the area as there are no whale shark aggregations (such as the Ningaloo Reef aggregation) in the region and Pygmy blue whales are typically solitary animals. Both species may occur year-round. Slight deviations by migrating and foraging marine fauna including whale sharks and pygmy blue whales, to avoid the vessels may be required, however this impact is considered negligible given the large navigable area available and the relatively small Operational Area. Impacts to marine fauna are considered ***negligible***.
Benthic communities	The installation of monitoring equipment may impact a highly localised area through turbidity during ROV activities at installation and annual surveys. The Operational Area is distant from key habitats of ecological importance such as coral reefs or shoals (detailed in Section 3), the nearest being Goeree and Vulcan Shoals located approximately 28 km to the southwest. Such habitats will therefore not be disturbed by VBA. There are no sensitive or unique marine habitats in the area and the diversity and coverage of epibenthos is low (ERM 2011). Given the widespread distribution and abundance of benthic communities within the surveyed areas and the NW Marine Bioregion, the consequence to benthic communities will be highly localised, negligible, and reversible change to a very small proportion of the of the overall benthos. The presence of subsea infrastructure (wellheads) has the potential to act as artificial habitat or hard substrate for the settlement of marine organisms that would not otherwise be successful in colonising the area. As shown in Figure 2-1 and Figure 2-2, the wellheads have some marine

Sensitive Receptor	Impact description
	growth on them which also attracts fish, but the coverage that is present has accumulated over time (20-30 years) and is minimal, probably due to the water depths and distance from other areas of high benthic coverage. Installation of additional monitoring equipment will result in colonisation with species likely sourced from the existing colonies on the wellheads. Marine growth may be removed during ROV surveys through water blasting resulting in some removal of the communities from the wellheads, and slight disturbance to the seabed as the marine growth debris settles on the seabed. Impacts to benthic communities are considered ***negligible***.
Consequence	Ranking
Negligible	Acceptable

6.1.3 Environmental performance

Aspect		**Physical presence**		
Performance outcome		Recreational and commercial fishers, and shipping traffic, are aware of exclusion and cautionary areas and are not significantly disrupted. Seabed disturbance limited to planned activities and defined locations		
ID	Management control	Performance standard	Measurement criteria	Responsible
001	Vessel navigational and communication equipment installed, maintained and operated in alignment with AMSA requirements	The vessel when alongside the wellheads will be alongside facilities already charted on Australian Hydrographic Office (AHO) nautical charts. A new PSZ will be temporarily gazetted around the wellhead when undertaking activities, other than during in-field observations (described in Section 2.5.1).	Australian Hydrographic Service (AHS) Chart Communications with AHO	Marine Superintendent
002		Navigation and communication equipment on the vessel comply with Safety of Life at Sea (SOLAS) requirements	PMS records show evidence of fully functional navigation and communication equipment maintenance	Marine Superintendent
003		ARPA with integrated AIS system are located on the vessel	CCR panel.	Marine Superintendent
004	Jadestone Energy Stakeholder Consultation procedure (JS-70-PR-I-00034) details consultation requirements to ensure other marine users are aware of the activity	Consultation undertaken with relevant stakeholders as described in Section 4. Other users who may be present in the area will be advised of VBA through: • Notice to Mariners issued by the AHS prior to mobilisation and following demobilisation; and • Cautionary areas delineation on Admiralty Chart.	Stakeholder communication records • Records confirm that AHS have received notification of activity commencement prior to mobilisation and following demobilisation of the vessel. • Records confirm that Cautionary area is delineated on Admiralty Chart	HSE Manager

Aspect		**Physical presence**		
Performance outcome		Recreational and commercial fishers, and shipping traffic, are aware of exclusion and cautionary areas and are not significantly disrupted. Seabed disturbance limited to planned activities and defined locations		
ID	Management control	Performance standard	Measurement criteria	Responsible
005		Rights of commercial fishers to operate in the Cautionary Area (as delineated on Admiralty charts) will be communicated to relevant vessel personnel.	Vessel induction records include awareness of rights for commercial fishers.	Country Manager

6.1.4 ALARP assessment

Based on the impact and risk assessment completed, Jadestone considers the control measures described above are appropriate to reduce the imposition due to the physical presence of the VBA to activities undertaken by relevant persons, as well as impacts to seabed. Additional controls considered but rejected are detailed below. The potential impacts are considered Acceptable (negligible to minor impacts). No further controls are required and therefore ALARP has been demonstrated.

Rejected control	Hierarchy	Practicable	Cost effective	Justification
Reduce number or remove vessel and helicopter use or reduce use during key sensitive periods	Isolation	No	No	Reducing or removing vessel and helicopter activities during known migration periods of marine fauna is not a viable option as these activities are necessary to ensure ongoing monitoring of the wellheads at regular intervals. The Operational Area is located outside of intensive shipping fairways and is not positioned in highly prized fishing habitat.
Installation of an active well monitoring system instead of the passive	Substitution	Yes	No	This system would require a longer period on location for installation and regular vessel visits to site for approximately 2 days every two weeks. This would therefore increase the potential for vessel interaction with third parties.
Additional activity specific navigational or communications requirements	Administrative	No	No	The navigational management and monitoring measures in place are industry standard and internationally accepted measures to minimise the potential for interference with, or collision between, vessels. Frequent and informative communication with relevant persons regarding activities associated with the vessel are undertaken. Additional procedures would provide no further benefit.
Additional vessels on location to inform third party vessels in the vicinity of the facility	Engineering	No	No	The additional cost of 24/7 vessel presence in field during each of the VBA is considered grossly disproportionate to the benefit gained given the activity occurring at the nearby Montara facility, and the ongoing presence of the wellheads is marked on charts. The radio room on the vessel is manned 24/7 allowing contact to be made with 3rd party vessels in the vicinity as required. If radio from the vessel cannot raise the vessel, calls are made to the Home Affairs Office for their control.

6.1.5 Acceptability assessment

The potential impacts of physical presence from the vessels during VBA are considered ‘Acceptable' in accordance with Section 0, based on the acceptability criteria outlined below. The control measures proposed are consistent with relevant legislation, standards and codes, and the environmental consequence is considered negligible.

Policy & management system compliance	Jadestone's HSE Policy objectives are met. Section 8 demonstrates that Jadestone's HSE Management System is capable of meeting environmental management requirements for this activity.
Social acceptability	Stakeholder consultation has been undertaken (Section 4), and no stakeholder concerns have been raised with regards to physical presence as denoted by the PSZ and preclusions within it. Impacts beyond temporary exclusion of areas local to the activity are not predicted.
Environmental context	While the presence of vessels during VBA presents a restricted zone to other users, the impact and risk assessment process indicates that the area of restriction is localised and occurs at a location that is not likely to result in significant penalties to the activities of relevant persons currently active in the area. There have been no concerns raised regarding the presence of the wellheads over the previous 20-30 years which are marked on charts. The sites around the wellheads are already disturbed. The area of seabed impacted by the increased turbidity and marine growth removal, is negligible in size, with recovery predicted through local recruitment from adjacent unimpacted areas. Previous surveys in the area show soft sandy sediments with sparse benthic communities typical of the greater NW Bioregion. Impacts to protected species are negligible with no permanent or population effects, given the large navigable area available and the relatively small Operational Area. The disturbed seabed is negligible in comparison to the vast size of soft substrata habitats spanning the North-West Marine Bioregion. The potential impact is considered acceptable after consideration of: • Potential impact pathways: the pathways and consequences from the temporary localized presence vessels and monitoring equipment are assessed in Section 6.1.1; • Preservation of critical habitats: localised disturbance is remote from Protected Areas; • Assessment of key threats as described in species and Area Management/ Recovery plans: see below under 'Conservation and Management Advice'; • Consideration of North-West Bioregional Plan: no impacts beyond 'negligible' (localized disturbance) predicted from the physical presence of the vessel to KEFs, shipwrecks/ other heritage places or protected species that are listed as values within the NW Bioregional Plan; and • Principles of ecologically sustainable development: impacts are fully recoverable, biological diversity and ecological integrity are not impacted.
Conservation and management advice	No management plans identified physical presence as described above as being a threat to marine fauna or habitats. Jadestone Energy has had regard to the representative values of the protected areas within the EMBAs, and the respective management plans and other published information. Impacts from physical presence will have a negligible impact on any of the social and ecological objectives and values, of any AMPs, or state marine parks. This is consistent with the objectives of the protected area management plans (Appendix B) and considered acceptable.

6.2 Light emissions

6.2.1 Description of aspect

Artificial light	Navigational and safety lighting on the vessel will generate light emissions that may potentially affect marine fauna behaviour. Lighting typically consists of bright white (metal halide, halogen, fluorescent) lights attenuating with distance.

	The ROV will be used during the monitoring and installation activities and it will require the use of spot lighting while it is underwater working. Lighting will typically consist of bright white (i.e., metal halide, halogen, fluorescent) lights. Direct light spill on surface waters will be limited to the area directly adjacent to the vessel as it operates within the Operational Area with the longest duration being ~2 days during monitoring system installation and then during annual ROV monitoring.

6.2.2 Impacts

Artificial lighting has the potential to affect marine fauna that use visual cues for orientation, navigation, or other purposes, resulting in behavioural responses which can alter foraging and breeding activity in marine reptiles, seabirds, fish and dolphins, create competitive advantage to some species and reduce reproductive success and/ or survival in others.

Potential impacts to marine fauna from artificial lighting associated with the drilling program are:

- Disorientation, attraction or repulsion; and
- Disruption to natural behavioural patterns and cycles.
- These potential impacts are dependent on:
- Density and wavelength of the light and the extent to which light spills into areas that are significant for breeding and foraging;
- Timing of overspill relative to breeding and foraging activity; and
- Sensitivity and resilience of the fauna populations that are affected.

Sensitive Receptor	**Impact description**
Plankton; Fish, Sharks and Rays	The response of fish to light emissions varies according to species and habitat. Experiments using light traps have found that some fish and zooplankton species are attracted to light sources (Meekan et al. 2001). Lindquist et al. (2005) concluded from a study that artificial lighting resulted in an increased abundance of clupeids (herring and sardines) and engraulids (anchovies); these species are known to be highly photopositive. Shaw et al. (2002), in a similar light trap study, noted that juvenile tuna (Scombridae) and jack (Carangidae), which are highly predatory, may have been preying upon higher than usual concentrations of zooplankton that were attracted to a vessels light field. There is a potential for individuals to be impacted by light emissions from lighting. However, as the Operational Area does not contain any significant feeding, breeding or aggregation areas for fish it is more likely there will individuals traversing the area then large groups of species. Light associated with the VBA will affect a small portion of the vast biologically important foraging area for whale sharks. However, impacts at a population level are not expected due to the limited duration of the activities (2 days maximum at each wellhead, and short periods of time (24hrs) intermittently during the EP duration). Light impacts to plankton, fish, sharks (including whale sharks) are considered ***negligible.***
Marine reptiles	Turtles are known to use a variety of cues for navigation when in the water. However, light is not thought to be an important cue for adults, although adults are considered to have a preference for non-illuminated beaches (EPA 2010). The most significant risk posed to marine turtles from artificial lighting is the potential disorientation of hatchlings following their emergence from nests. Hatchlings use the light of

Sensitive Receptor	Impact description
	the oceanic horizon to orientate themselves towards the sea when making their way into the water for the first time; the oceanic horizon is almost always brighter than the elevated landward horizon (EPA 2010). Hatchling behaviour may therefore be affected when exposed to an artificial light source at certain intensities and distributions, potentially leading to disorientation when attempting to migrate to the ocean. The diffuse glow from light sources can cause disorientation to hatchlings up to 4.8 km from the light source (Limpus, 2006, in EPA, 2006). National Light Pollution Guidelines for Wildlife have also been published (Commonwealth of Australia 2023). According to the National Light Pollution Guidelines for Wildlife, a 20 km threshold provides a precautionary limit based on observed effects of sky glow on marine turtle hatchlings demonstrated to occur at 15-18 km and fledgling seabirds grounded in response to artificial light 15 km away. The effect of light glow may occur at distances greater than 20 km for some species and under certain environmental conditions (Commonwealth of Australia 2023). The closest turtle nesting habitat to the Operational Area is significantly beyond this distance as Cartier Island is approximately 106 km north-west of the Montara field. The nearest BIA boundary for marine reptiles (green turtle) is 92 km west of the Operational Area. As a result, impacts to adults and hatchlings are expected to be ***negligible***. Due to the paucity of information, the direct effect of artificial light on sea snakes is largely unknown. Sea snakes may experience indirect effects such as changes in predator-prey relationships and disorientation, attraction or repulsion may occur. Sea snakes are thought to occur more commonly on reef habitats that are not present in the Operational Area. It is recognised that some pelagic sea snake individuals may occur and be attracted to the light from the vessel. However, while such individuals may come to investigate the light source it is considered unlikely that they will stay within the area. As such impacts to sea snakes are considered ***negligible.***
Seabirds	It is broadly accepted that seabirds do aggregate around offshore production facilities in above average numbers (Verhejen, 1985; Weise et al., 2001). This is predominantly attributed to the observation that structures in deeper water environments tend to aggregate marine life at all trophic levels, creating food sources and shelter for seabirds (Surman, 2002). The light from the nearby Montara facility may therefore attract seabirds which in turn would potentially be attracted to the vessels undertaking VBA at the wellheads. This additional lighting may also provide enhanced capability for seabirds to forage at night (BHPB, 2005). Studies in the North Sea indicate that migratory birds are attracted to lights on offshore platforms when travelling within a radius of 3–5 km from the light source. Outside this area their migratory path will be unaffected (Marquenie et al., 2008). Given that the Operational Area is outside a flyway, and the nearest migratory bird breeding/ roosting site is Cartier Island which is located approximately 106 km north-west of the locations only a small number of seabirds are expected to be affected by artificial light emissions whilst in transit, any behavioural disturbances such as disorientation and attraction would be a *Slight effect; recovery in days to week*. As such impacts to seabirds are considered ***negligible.***
Other species	There is no evidence to suggest that artificial light sources adversely affect the migratory, feeding or breeding behaviours of cetaceans. Cetaceans predominantly utilise acoustic senses to monitor their environment rather than visual sources (Simmonds et al. 2004), so light is not considered to be a significant factor in cetacean behaviour or survival. Light from the vessel is not considered to have an impact on marine mammal behaviour.

Consequence	Ranking
Negligible	Acceptable

6.2.3 Environmental performance

Aspect		**Light emissions**		
Performance outcome		Activity lighting managed in accordance with OHS requirements		
ID	Management controls	Performance standards	Measurement criteria	Responsibility
006	Vessel navigation aids and equipment meet regulatory and safety requirements by aligning with Navigation Act 2012	Vessels will comply with maritime safety and navigation requirements including: • International Regulations for Preventing Collisions at Sea 1972 (COLREGS); • Chapter V of Safety of Life at Sea (SOLAS); • Marine Order 21 (Safety of navigational and emergency procedures) (as appropriate to vessel class); • Marine Order 30 (Prevention of collisions) (as appropriate to vessel class)	PMS confirms navigational equipment is maintained to regulatory and safety standards	Vessel Master

6.2.4 ALARP assessment

On the basis of the impact and risk assessment process completed, Jadestone considers the control measures described above are appropriate to manage the risk of light emissions to ALARP. Additional controls considered but rejected are detailed below. The potential impacts are 'tolerable' as they are within the green category (negligible impacts). No further controls are required (see below) and therefore ALARP has been demonstrated.

Rejected Control	Hierarchy	Practicable	Cost Effective	Justification
All activities completed in daylight hours only	Eliminate	No	No	Daylight operations only considered to introduce unnecessary cost (i.e. 12 vs 24-hour ops.), whilst delivering little/ no environmental benefit. VBA cannot be shut down on a daily basis due to the process required to install monitoring equipment, and there would be a >100% increase in time taken to complete the activities resulting in a doubling of costs and the requirement to anchor or standby on location overnight with navigational and safety lighting on anyway to ensure vessel is visible to other users. Light from the vessel will not illuminate beaches where receptors (including turtle hatchlings) sensitive to light emissions are present.
Replace external lights or reduce the lighting	Substitute	No	No	Lights are required to create illumination levels needed for safe working, emergencies and navigational requirements. No additional cost but introduces unacceptable safety risks to personnel and vessels. Little benefit given relatively low numbers of turtles and seabirds in Operational Area and surrounding waters.
Installation of an active well monitoring system instead of the passive	Substitution	Yes	No	This system would require a longer period on location for installation and regular vessel visits to site for approximately 2 days every two weeks. This would therefore increase the light emissions from the activity significantly over the course of each year.
Add filters to lights or re-design placement/ positioning	Engineering	No	No	Lighting has been positioned such that maximum illumination of work surfaces within asset structures is achieved. Costly and considered grossly disproportionate to any gain when considering the distances that the Operational Area is from turtle or seabird nesting areas.
Reduce usage of lighting in peak sensitive receptor windows	Isolation	No	N/a	To ensure lighting meets health and safety requirements, lighting is required throughout the day/ night for the duration of the activities. To isolate usage such that lights were not used during sensitive receptor windows would create a non-conformance with health and safety requirements.
None identified	Administrative	N/a	Na/a	N/a

6.2.5 Acceptability assessment

The potential impacts due to light emissions are considered acceptable in accordance with Section 0, based on the acceptability criteria outlined below. No control measures are proposed as a reduction below maintenance of light levels in accordance with health and safety regulations would compromise personnel health and safety, and the environmental consequence is considered negligible.	
Policy & management system compliance	Jadestone's HSE Policy objectives are met. Section 8 demonstrates that Jadestone's HSE Management System is capable of meeting environmental management requirements for the activities.
Stakeholders & reputation	Stakeholder consultation has been undertaken (see Section 4), and no stakeholder concerns have been raised with regards to impacts from lighting on sensitive receptors.
Environmental context & ESD	While there is direct light spill to sea surface immediately around the vessel, the impact and risk assessment process indicates that the light spill will not cause significant effects to adult turtles or birds that may transit the Operational Area. The potential impact is considered acceptable after consideration of: • Potential impact pathways; • Preservation of critical habitats; • Assessment of key threats as described in species and Area Management / Recovery plans; • Consideration of North-West Bioregional Plan; and • Principles of ecologically sustainable development (ESD).
Conservation and management advice	Light is identified in the National recovery plan for Turtles (2017) as a threat to turtles on nesting beaches only. There will be no light spill on nesting beaches and therefore the activity is considered to be conducted in a manner that is consistent with the Recovery Plan and the National Light Pollution Guidelines for Wildlife (Commonwealth of Australia 2023). Jadestone has had regard to the representative values of the protected areas within the EMBA, and the respective management plans and other published information. Impacts from light emissions will have a negligible impact on any of the social and ecological objectives and values, of any AMPs, or state marine parks. This is consistent with the objectives of the protected area management plans (Appendix B) and considered acceptable.

6.3 Noise Emissions

6.3.1 Description of aspect

Noise emissions	Throughout the VBA, low intensity underwater noise of a continuous nature will be emitted from the vessel intermittently for the duration of each VBA. Noise will be generated from a vessel engine rotation of propellers and by machinery operated on the decks and working areas of the vessel as well as from ROVs. Marine operations conducted on the decks and working areas of the vessel introduce strong sounds of varying characteristics into the water column, largely at low frequencies. There are no noise emissions associated with the remote monitoring system itself. Vessel noise varies with the size, speed, and engine type and the activity being undertaken. The loudest noise level from vessels are where thrusters are used to maintain position which will be required during the VBA. Noise levels for a range of vessels have been measured at 164-182 dB re µPa at 1 m (Wyatt 2008). Vessel noise is expected to decrease rapidly from the source.

	The extent of helicopter noise impacts is limited to take off and landing at the vessel as they do not fly close to the ocean surface (typical cruising height of between approximately 1,000 to 1,400 m). The main acoustic source associated with helicopters is the impulsive noise from the main rotor and high-speed impulsive noise related to trans-sonic effects on the advancing blade. Dominant tones in noise spectra from helicopters and fixed wing aircraft are generally below 500 Hz (McCauley, 1994). Other tones associated with the main and tail rotors and other engine noise can result in a larger number of tones at various frequencies (BHPB, 2005). Sound travelling from a source in the air (e.g. helicopter) to a receiver underwater is affected by both in-air and underwater propagation processes, which are further complicated by processes occurring at the air-seawater surface interface. The received level underwater depends on source altitude and lateral distance, receiver depth, water depth, and other variables. The angle at which the line from the aircraft and receiver intersects the water surface is important. In calm conditions, at angles greater than 13° from vertical, much of the sound is reflected and does not penetrate the water (Richardson et al., 1995; NRC, 2003). Therefore, strong underwater sounds are detectable for a period roughly corresponding to the time the helicopter is within a 26° cone above the receiver (BHPB, 2005). As underwater sound levels are dependent on the primary (noisiest) sound source rather than being strictly additive, and since ROV operations will be undertaken from a vessel they will make little contribution to the overall noise emissions associated with vessel activities, as described above and are not risk assessed further. A summary of anthropogenic noise sources associated with the VBA, and natural underwater noise sources, are provided in Table 6-1 below.

Table 6-1: Summary of anthropogenic and natural underwater noise sources

Source	Sound Intensity (dB re 1 µPa)	Dominant Frequency (Hz)
Natural Noises		
Ambient sea sound [1, 2]	80 – 120	Varied
Undersea earthquake [2]	272	50
Seafloor volcanic eruption [2]	255+	Varied
Lightning strike on sea surface [2]	250	Varied
Breaching whale [2]	200	10-100
Bottlenose dolphin click [2]	Up to 229	Up to 120,000
Humpback whales (tail fluke, fin slaps) [3]	192	30 – 1,200
Humpback whale song [4]	179	50 – 10,000
Sperm whale clicks [2]	Up to 235	100 – 30,000
Blue whale vocalisations [2]	190	12 – 400
Anthropogenic Noise Sources Expected from the VBA		
Support vessels (<100 m length) [5]	150 – 189 (SPL), depending on size, age, speed and engine characteristics	Non-impulsive, modulated by propeller cavitation and dynamic positioning. Tonal and broadband

Source	Sound Intensity (dB re 1 µPa)	Dominant Frequency (Hz)
		noise up to 100 kHz, dominant at low frequency (50-150 Hz).
Helicopter flyover [5, 9]	Depends on type and size of helicopter and height above sea level. E.g. from 101 to 109 dB re 1 uPa measured at 3 m water depth for a helicopter at altitudes of 610 m and 152 m respectively.	Most acoustic energy is low frequency (<500 Hz).

6.3.2 Impacts

Potential impacts to marine fauna due to noise and vibration in the underwater environment may occur, and can result in a range of responses including (Richardson *et a*l., 1995; Southall *et a*l., 2007):

- Injury to hearing or other organs: hearing loss may be temporary (temporary threshold shift (TTS)) or permanent (permanent threshold shift (PTS));
- Masking or interfering with other biologically important sounds (including vocal communication, echolocation, signals and sounds produced by predators or prey); and
- Disturbance leading to behavioural changes or displacement of fauna. The occurrence and intensity of disturbance is highly variable and depends on a range of factors relating to the animal and situation.

EPBC Act listed and threatened migratory species that may be present near the activities include whales migrating through the Operational Area, foraging whale sharks and turtles. Noise is identified as a threat within the conservation advice or recovery plan for a number of the EPBC species that may occur in the Operational Area.

Sensitive Receptor	Impact description
Marine Mammals	Whales are low-frequency hearing cetaceans with an estimated functional hearing frequency range of 7–22 kHz (Southall *et. al.*2007). The thresholds of recommended root square mean sound pressure level (ms SPL) that could result in behavioural response for cetaceans is expected to be: 120 dB (ms SPL) for continuous noise sources; and 160 dB RMS SPL for impulsive noise sources. More permanent injury would be expected to occur at 230 dB re 1 µPa (peak) (Parvin et al., 2007, Gomez *et al.* 2016). Behavioural responses to noise are highly variable and context-specific; higher received levels are not always associated with stronger behavioural responses (Southall *et al.* 2007; Gomez *et al*. 2016). Different individuals or groups may respond differently depending on their behaviours and motivation at the time (e.g. foraging, socializing, reproduction) and sudden exposure to noise may also result in more apparent responses than more gradual exposures (Gomez *et al*. 2016). Cetaceans approaching the vessel will be gradually exposed to increasing noise levels and, therefore, animals will not be startled by sudden or loud noises and behavioural responses are expected to be limited. Based on these findings however, it is reasonable to expect that significant behavioural responses such as avoidance are more likely to occur in closer proximity to the sound source and in response to higher sound levels. There is the potential for some

Sensitive Receptor	Impact description
	cetaceans to display some level of avoidance when in close proximity to the vessel. Sound levels are expected to approach ambient levels over several kilometres. Reactions of whales to circling aircraft (fixed wing or helicopter) are sometimes conspicuous if the aircraft is below an altitude of approximately 300 m, uncommon at 460 m and generally undetectable at 600 m plus (NMFS, 2001). Baleen whales sometimes dive or turn away during overflights, but sensitivity seems to vary depending on the activity of the animals. The effects on whales appear to be transient, and occasional overflights are not thought to have long-term consequences to cetaceans (NMFS, 2001). Observations by Richardson and Malme (1993) indicate that, for bowhead whales, most individuals are unlikely to react significantly to occasional low-flying single helicopter passes ferrying personnel and equipment to offshore operations at altitudes above 150 m. Leatherwood et al. (1982) observed that Minke whales responded to helicopters at an altitude of 230 m by changing course or slowly diving. Although there are likely to be transient whales passing through the Operational Area (refer Section 3), it does not contain any significant feeding, breeding or aggregation areas for marine mammals. The nearest BIA for cetaceans is the pygmy blue whale migration BIA, which is located 63 km at its closest point from the Operational Area and is therefore not expected to be impacted by noise from vessels and helicopters. Impacts to cetaceans from underwater noise generated by VBA is considered ***negligible.***
Marine reptiles	The auditory sensitivity of marine turtles is reported to be centred in the 400–1,000 Hz range, with a rapid drop-off in noise perception on either side of this range (Richardson *et al.* 1995). Turtles have been shown to respond to low frequency sound, with indications that they have the highest hearing sensitivity in the frequency range between 100 – 700 Hz (Bartol and Musick, 2003). Reported responses of turtles to high levels of anthropogenic noise include increased swimming activity and erratic swimming patterns (McCauley et al., 2002). The Recovery Plan for Marine Turtles in Australia (2017) identifies noise interference as a threat to marine turtles and suggest the impact of noise on turtle stocks may vary depending on whether exposure is acute or chronic. This activity will result in chronic noise rather than acute, from the vessel movements. No absolute thresholds are known for the sensitivity of turtles to underwater noise, or the levels required causing pathological damage. However, Popper *et al.* (2014), a working group of leading experts, suggested that behavioural responses which are less sensitive to noise than cetaceans, are more likely to occur within tens or hundreds of metres from vessels and other continuous/ non-impulsive noise sources. The Operational Area does not intersect any known inter-nesting areas and is 106 km from nearest BIA and key nesting sites (Cartier Island). As such, it is more likely that a transient individual might be affected by noise. However, any impacts are expected to be limited to behavioural impacts, with recovery in days to weeks (***negligible***). Sea snakes may also be affected by noise, although as they generally associated with reef systems including at submerged shoals (the closest are approximately 30 km away from the Operational Area), it is considered unlikely they will frequent the Operational Area.
Fish, Sharks and Rays	Fish sensitivity and resilience to underwater noise varies greatly depending on the species, hearing capability, habits, proximity to the noise source, and the timing of the noise (i.e. the noise may occur during a critical part of the fish's lifecycle; McCauley and Salgado-Kent, 2008). Most marine fish are hearing generalists (Amoser and Ladich, 2005) with relatively poor hearing. Hearing generalists are not as sensitive to noise and vibration as hearing specialists, which have developed hearing specialisations and can be particularly vulnerable to intense sound vibrations because many possess an air-filled swim bladder (Gordon et al. 2004).

Sensitive Receptor	Impact description
	Popper et al. (2014), a working group of leading experts, suggested that behavioural responses in fish, which are less sensitive to noise than cetaceans, are more likely to occur within tens or hundreds of metres from vessels and other continuous/ non-impulsive noise sources. While fish may show an initial behavioural response, fish are known to quickly habituate to continuous noise sources (Smith et al. 2004; Wysocki et al. 2006; Spiga et al. 2012; Nichols et al. 2015; Johansson et al. 2016; Holmes et al. 2017). In particular, many fish species are known to aggregate around the foundations of oil and gas platforms and subsea structures, despite operational noise. Therefore, behavioural impacts fish are expected to be limited and highly localised. There are also no known key feeding/ breeding areas occur within the Operational Area, however fish will likely transit the area. Scientific literature indicates that behavioural affects due to artificial noise may include changes to schooling behaviour and avoidance of noise sources. A number of shark species may also occur in the region, including the EPBC Act listed whale shark. The whale shark foraging BIA intersects the Operational Area. Approved Conservation Advice for *Rhincodon typus* (whale shark) (2015) does not identify noise interference as a threat to the species. Elasmobranchs (rays, skates, sharks) rely on low frequency sound to locate prey (Myrberg 1978). The large hearing structure of the whale shark will be most responsive to long-wave, low-frequency sound (Myberg 2001) in the range of 20 and 800 Hz. Elasmobranchs do not have swim bladders and are not typical hearing specialists (Baldridge 1970). As such any impacts to fish, sharks or rays are expected to be ***negligible.***
Seabirds	Birds generally hear at a narrower frequency range than mammals, with best hearing at frequencies between 1 and 5 kHz (Dooling & Popper 2007). However, there is little information available specific to seabird and shorebird hearing and thresholds for disturbance. It is not expected that noise generated from the VBA will greatly affect seabirds and shorebirds that may overfly or land on the facility. Therefore, any impacts are expected to be limited to behavioural impacts, with recovery in days to weeks (***negligible***).

Consequence	Ranking
Negligible	Acceptable

6.3.3 Environmental performance

Aspect		**Noise emissions**		
Performance outcome		Controls implemented to minimise potential harmful impacts to marine fauna from noise		
ID	Management controls	Performance standards	Measurement criteria	Responsibility
007	Vessels will comply with EPBC Regulations 8.05 and 8.06	Support Vessel Masters will comply with relevant parts of EPBC Regulation (2000): Reg. 8.05 & 8.06 respectively, where safe to do so: Within the caution zone for a cetacean (including a calf) (within 300 m of a cetacean), the Vessel Master must operate the vessel at a constant speed of less than 6 knots and minimise noise; and If a calf appears within an area that means the vessel is then within the caution zone of the calf, the Vessel Master must immediately stop the vessel and turn off the vessel's engines or disengage the gears or withdraw the vessel from the caution zone at a constant speed of less than 6 knots. The above requirements will also apply to whale sharks if they are sighted within 300m of the vessel.	Vessel Masters provided and required to operate in accordance with the Montara Marine Facility Operating Manual (MV-90-PR-H-00001) – Sign-off sheet for completed by Vessel Master. Incident reports record non-compliances with EPBC Regulations 2000 - Part 8 Division 8.1 (interacting with cetaceans) Induction includes whale shark avoidance requirements	Vessel Master
008	Helicopters will comply with EPBC Regulations 8.07 as per Jadestone's Aviation Standard (JS-83-PR-G-00010)	Helicopters will comply with the following elements of EPBC Regulations 2000 Regulation 8.07, except during take-off/ landing, during an emergency or when action is required to maintain safe operations: A helicopter will not operate at a height lower than 1,650 ft or within a horizontal radius of 500 m of a cetacean; and A helicopter will not deliberately approach a cetacean from head-on. Helicopter operators are required to report any instances where these standards are breached, and any event involving injury to or death of marine fauna due to helicopter operations.	Helicopter Contractors provided Jadestone's Aviation Standard (JS-83-PR-G-00010) Incident reports record non-compliances with EPBC Regulations 2000 – Part 8 Division 8.1 (interacting with cetaceans)	Helicopter pilot

Aspect		**Noise emissions**		
Performance outcome		Controls implemented to minimise potential harmful impacts to marine fauna from noise		
ID	Management controls	Performance standards	Measurement criteria	Responsibility
009	Vessel machinery is certified and maintained in accordance with Flag State regulations and vessel class	Vessel machinery is maintained in accordance with vessel class requirements.	PMS provides status of maintenance	Vessel Master

6.3.4 ALARP assessment

Based on the impact and risk assessment completed, Jadestone considers the control measures described above are appropriate to manage the impact and risk of noise due to operation of machinery, vessels and helicopters to ALARP. Additional controls considered but rejected are detailed below. The potential impacts are considered Acceptable as they are within the green category (negligible impacts). No further controls are required and therefore ALARP has been demonstrated.

Rejected Control	Hierarchy	Practicable	Cost-effective	Justification
Remove machinery that emits noise	Eliminate	No	N/a	Noise from the vessels, ROVs, helicopters and machinery cannot be eliminated. Without these assets, the activities cannot be undertaken.
Replace machinery that emits noise with quieter machinery	Substitute	No	No	All equipment as listed is required; no opportunities for substitution were identified.
Installation of an active well monitoring system instead of the passive	Substitution	Yes	No	This system would require a longer period on location for installation and regular vessel visits to site for approximately 2 days every two weeks. This would therefore increase the noise emissions from the activity significantly over the course of each year.
Provide additional muffling on machinery, or design to reduce noise emissions	Engineering	No	No	Machinery is generally designed with human health hearing requirements taken into consideration, reducing operating noise to as low as efficiently and cost effectively as possible.
Do not operate noisy machinery in areas of sensitivity	Isolation	No	N/a	The activities are located at distance from sensitive receptors and the coastline. Other fauna in the vicinity may experience short term behavioural effects only.
Additional activity specific noise emissions procedures	Administrative	No	No	Through the application of EPBC Regulation 8 for helicopter and vessel marine fauna interaction procedures, and application of machinery maintenance, potential impacts are reduced. No further procedures are considered necessary.
Undertake site specific acoustic modelling as per Approved Conservation Advice for *Megaptera novaeangliae* (humpback whale) (2015))	Administrative	No	No	Additional cost to undertake site specific acoustic modelling to increase the knowledge of potential impacts. However, noise emissions from these activities are already well documented and the operational area is not within critical habitat for humpback whales

Develop a noise management plan as per approved Conservation Advice for *Megaptera novaeangliae* (humpback whale) (2015)).	Administrative	No	No	Additional cost to develop a noise management plan for an activity that is low risk to marine fauna due to the noise emissions and the activity is not within critical habitat for humpback whales.
Undertake activity in alternate season to potentially further reduce exposure to marine fauna from noise emissions e.g. outside of turtle nesting and whale migration periods	Substitution	Yes	No	Activity timing can be any time of the year. As the impacts are localised and no significant impacts predicted to marine fauna/habitats or socio-economic receptors, any restriction on timing results in an unacceptable cost for little environmental benefit. Any restriction on activity timing would not be considered reasonably practicable and would not achieve any significant environmental benefit by being seasonally specific.

6.3.5 Acceptability assessment

The impacts due to machinery, ROV, helicopter and vessel noise are considered acceptable in accordance with Section 0, based on the acceptability criteria outlined below. The control measures proposed are consistent with relevant legislation, standards and codes, and the environmental consequence is considered negligible.	
Policy & management system compliance	Key Jadestone management system controls include EPBC Regulations (2000) pertaining to vessel and helicopter operations. Jadestone's HSE Policy objectives are met. Section 8 demonstrates that Jadestone's HSE Management System is capable of meeting environmental management requirements for the proposed drilling activities.
Stakeholders & reputation	Stakeholder consultation has been undertaken (see Section 4), and no stakeholder concerns have been raised with regards to impacts from noise on sensitive receptors.
Environmental context & ESD	While there are noise emissions expected, the impact and risk assessment process indicates that noise will not result in death, injury or significant behavioral effects to marine fauna The potential impact is considered acceptable after consideration of: • Potential impact pathways: the pathways and consequences from the temporary localised ROV and engine sources from the vessel are assessed in Section 6.3.2; • Preservation of critical habitats: remote from Protected Areas or aggregations of noise sensitive receptors; • Assessment of key threats as described in species and Area Management/Recovery plans: See 'Conservation and management advice' below; • Consideration of North-West Bioregional Plan: vessel and offshore mining noise is regarded 'of potential concern' to multiple conservation values (see Section 6.3.2). As such, minimisation through maintenance and avoidance through application of EPBC Act Reg 8.05 and 8.06 are aligned with the objectives of the Plan; and • Principles of ecologically sustainable development (ESD): no impacts from noise sources beyond' negligible' to biological diversity or ecological integrity, no irreversible damage.

Conservation and management advice	Noise interference is identified as a threat in: • The Recovery Plan for Marine Turtles in Australia (2003) 6. The Conservation Management Plan (Recovery Plan) for the Blue Whale (B. musculus) (DoE 2015) Which suggest noise may lead to the avoidance of important habitat in marine turtles and mask cetacean vocalisations. The Operational Area does not overlap with any turtle or whale BIAs or migratory pathways. Given the distance from the Operational Area to the closest turtle nesting site at Cartier Island (106 km) and the large navigable area available in the open ocean, it is expected that the impact of noise interference on individual transient turtles or cetaceans travelling through the Operational Area is expected to result in temporary avoidance reactions. Avoidance of migratory or nesting seasons is not considered to be ALARP given the low levels of noise from the planned activities, short term activities and the location of the activity outside of BIAs and migratory pathways. The risk matrix presented within the Recovery Plan for Marine Turtles in Australia provides a risk rating of low to moderate associated with industrial and shipping noise on turtles. No further controls are considered appropriate given the distance from turtle BIAs and the low levels of noise from the proposed activity. The risk matrix presented within the Conservation Management Plan for Blue Whales (DoE (2015)) provides a risk rating of low to moderate associated with industrial and shipping noise on blue whales. The proposed controls including reduction of vessel speed in the vicinity of a whale align with the priority for action recommended in this management plan. Jadestone has had regard to the representative values of the protected areas within the EMBA, and the respective management plans and other published information. Impacts from noise will have a negligible impact on any of the social and ecological objectives and values, of any AMPs, or state MPs. This is consistent with the objectives of the protected area management plans (Appendix B) and considered acceptable. EPBC Regulation 8 and the Australian National Guidelines for Whale and Dolphin Watching 2005 (DEH 2006) set the requirements for vessels interacting with cetaceans. Commercial vessel noise is identified as a risk in the 'Whale shark management with particular reference to Ningaloo MP' (2013). The Operational Area overlaps a small portion of the Whale shark foraging BIA where aggregations are not as dense or sustained as the Ningaloo MP and the open ocean location does not restrain migratory routes.

6.4 Atmospheric Emissions

6.4.1 Description of aspect

Emissions	The main sources of atmospheric emissions during operational activities are: • Power generation for machinery and vessel operations; and • Emergency conditions. The use of fuel (specifically marine-grade diesel) to power vessel engines, generators and mobile and fixed plant and equipment will result in emissions of greenhouse gases (GHG) such as carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O), and non-GHG such as sulphur oxides (SO_x) and nitrous oxides (NO_x). Trapped gases will be released to atmosphere during the well activities (Section 2.8).

6.4.2 Impacts

Sensitive Receptor	Impact description
Air quality	Emissions can reduce air quality in the immediate vicinity of the vessel present in the Operational Area. The emissions will under normal circumstances quickly dissipate into the surrounding atmosphere. As such impacts to air emissions are considered ***negligible***.
Birds	A reduction in air quality may have a temporary effect on transient bird species passing through the Operational Area. No avifauna BIAs overlap the Operational Area (Section 3.3.1.4) however, thirteen threatened and/or migratory seabirds were identified as potentially transiting, occurring within, or having habitat potentially occurring within the greater region. These species may be impacted by deterioration in air quality if they are transiting the immediate area of the vessel exhaust release points. Symptoms of exposure could include irritation of eyes and respiratory tissues or breathing difficulties. Given that the Operational Area is outside a flyway, and the nearest migratory bird breeding/ roosting site is Cartier Island approximately 106 km north-west of the Operational Area, only a small number of seabirds are expected to be affected by a reduction in air quality whilst in transit, any behavioural disturbances such as alteration of flight path would be a slight effect; recovery in days to week. There are no known air quality standards or guidelines specifically for avifauna. However, if avifauna are exposed, it is expected they would only be exposed to changes in air quality for an extremely short period. Chronic exposures are not considered credible given that avifauna would be transiting through the area. As such impacts to seabirds are considered ***negligible***.
Social receptors	As the Operational Area sits in offshore waters, the combustion of fuels in such remote locations will not impact on air quality in coastal towns or other sensitive locations. The Sea-Eagle-1 wellhead is approximately 4 km from the WHP and FPSO within the Montara field and therefore emissions are expected to have dissipated in the vicinity of the wellhead with no potential impacts to personnel on the FPSO. No impacts are therefore expected, and the consequence is considered to be ***negligible***.

Consequence	Ranking
Negligible	Acceptable

6.4.3 Environmental performance

Aspect		**Atmospheric emissions**		
Performance outcome		No unplanned emissions to the atmosphere; Emissions to air meet regulatory requirements		
ID	Management controls	Performance standards	Measurement criteria	Responsibility
010	Vessel machinery is certified and maintained in accordance with Flag State regulations and vessel class	Vessel machinery is maintained in accordance with vessel class requirements.	PMS provides status of maintenance	Vessel Master

6.4.4 ALARP assessment

On the basis of the impact and risk assessment completed, Jadestone considers the control measures described above are appropriate to manage atmospheric emissions from VBA to ALARP. Additional controls considered but rejected are detailed below. The potential impacts are considered Tolerable as they are within the green category (negligible impacts). No further controls are required and therefore ALARP has been demonstrated.

Rejected control	Hierarchy	Practicable	Cost effective	Justification
All equipment producing emissions is removed	Eliminate, Engineering	No	N/a	Atmospheric emissions from operating equipment including vessels and helicopters is required to undertake the Activity. Equipment cannot be removed completely. Risk and impact reduction are achieved through planned maintenance ensuring clean and efficient running of engines.
Installation of an active well monitoring system instead of the passive	Substitution	Yes	No	This system would require a longer period on location for installation and regular vessel visits to site for approximately 2 days every two weeks. This would therefore increase the air emissions from the activity significantly over the course of each year.
All emissions producing equipment is substituted for equipment that does not produce emissions	Substitute	No	N/a	All equipment as listed is required; no opportunities for substitution were identified.
None identified	Isolation	N/a	N/a	The Activity is located at distance from sensitive receptors and the coastline.
None identified	Administrative	N/a	N/a	Compliance with relevant and appropriate MARPOL requirements

6.4.5 Acceptability assessment

The potential impacts of atmospheric emissions are considered acceptable in accordance with Section 0, based on the acceptability criteria outlined below. The control measures proposed are consistent with relevant legislation, standards and codes, and the environmental consequence is considered negligible.

Policy & management system compliance	Jadestone's HSE Policy objectives are met. Section 8 demonstrates that Jadestone's HSE Management System is capable of meeting environmental management requirements for the activities.
Laws, standards and Industry best practice	Compliance with relevant and appropriate MARPOL requirements. The APPEA Code of Environmental Practice (CoEP) (2008) principles are met with regards to meeting the requirements of all laws and regulations, and meeting industry's objective to maintain a social license to operate. In accordance with APPEA objectives, appropriate systems are in place to minimise impacts, manage complaints, document consultation and communicate with stakeholders.

Stakeholders & reputation	Stakeholder consultation has been undertaken (see Section 4), and no stakeholder concerns have been raised with regards to impacts from atmospheric emissions on sensitive receptors. The Activity is located at distance from aggregations of sensitive receptors and the coastal communities.
Environmental context & ESD	While there are atmospheric emissions to the airshed immediately around the facility and vessels, the impact and risk assessment process indicates that emissions will not result in significant effects to the environment or receptors. The potential impact is considered acceptable after consideration of: • Potential impact pathways: Section 6.4.2 assesses the pathways and consequences of the localised degradation of air quality potentially impacting transiting migratory shorebirds and protected seabirds; • Preservation of critical habitats: remote from Protected Areas and aggregations of sensitive receptors; • Assessment of key threats as described in species and Area Management/ Recovery plans: see Conservation and Management Plans' below; • Consideration of North-West Bioregional Plan: no specific actions noted regarding offshore air emissions but contributions to the global GHG inventory resulting in ocean acidification are noted. As such, minimisation of inefficient engine exhaust gases though timely PMS is aligned with the NW Bioregional objectives; and • Principles of ecologically sustainable development (ESD): no impacts from air emissions beyond 'negligible' to biological diversity or ecological integrity.
Conservation and management Plans	A number of management plans include consideration of the effects of climate change on species, including the following: • Marine Bioregional Plan for the North Marine Region • Recovery Plan for the White Shark (*Carcharodon carcharias*) (2013) • Approved Conservation Advice for *Rhincodon typus* (whale shark) (2015) • Conservation Management Plan for the Blue Whale 2015–2025 • Approved Conservation Advice for *Balaenoptera physalus* (fin whale) (2015) • Approved Conservation Advice for *Balaenoptera borealis* (sei whale) (2015) • National Light Pollution Guidelines for Wildlife (DCCEEW, 2023) • Recovery Plan for Marine Turtles in Australia 2017–2027 (CoA 2017) • Commonwealth Conservation Advice on *Dermochelys coriacea* (2008) • Approved Conservation Advice on *Aipysurus foliosquama* (Leaf-scaled seasnake) (2011) • Wildlife Conservation Plan for Seabirds (CoA 2020b) • Wildlife Conservation Plan for Migratory Shorebirds (2015) • Approved Conservation Advice for *Numenius madagascariensis* (Eastern Curlew) (2023) • Approved Conservation Advice for *Calidris canutus* (Red knot) (2024) • Conservation Advice *Limosa lapponica menzbieri* (Bar-tailed godwit (northern Siberian)) (2024) • Conservation Advice for the Abbott's Booby *Papasula abbotti* (2020) • Conservation Advice for the Asian Dowitcher *Limnodromus semipalmatus* (2024) • Conservation Advice for the Sharp-tailed Sandpiper *Calidris acuminata* (2024)

	• Conservation Advice for *Anous tenuirostris melanops* (Australian lesser noddy) (2015) • Conservation Advice for *Phaethon lepturus fulvus* (white-tailed tropicbird) (2014) • Conservation Advice *Charadrius leschenaultia* Greater sand plover (2023) • Conservation Advice for *Pristis pristis* (largetooth sawfish) (2025) • Conservation Advice for Sternula albifrons (little tern) (2025) Jadestone has had regard to the representative values of the protected areas within the EMBAs, and the respective management plans and other published information. Impacts from atmospheric emissions will have a negligible impact on any of the social and ecological objectives and values, of any AMPs, or state MPs. This is consistent with the objectives of the protected area management plans (Appendix B) and considered acceptable. Jadestone is committed to achieve Net Zero (scope 1 and 2) GHG emissions for its operated assets by no later than 2040 to align with Australian climate commitments and the goals of the Paris agreement. This target will in turn reduce the potential effects of climate change and meet the objectives of the recovery plans and conservation advices. It is important to acknowledge that climate change impacts cannot be directly attributed to any one activity, as they are the result of global GHG emissions, minus global GHG sinks, that have accumulated in the atmosphere since the industrial revolution began. Therefore, there is no direct link between GHG emissions from the Montara facility operations and climate change impacts to specific ecological receptors.

6.5 Operational Discharges

6.5.1 Description of aspect

Liquid discharges	Liquid discharges generated from the vessel and routinely discharged to the marine environment include: • Slops water (deck drainage, bilge water, tank washing); • Cooling water; • Desalination brine; and • Sewage, greywater and putrescible waste. A summary of each waste type is provided below. Deck drainage and bilge water Deck drainage from the vessel consists primarily of stormwater and deck wash-down water. It may include low levels of detergents, oil and grease, spilt chemicals, used machinery chemicals and general dirt from the deck. The volume of drainage likely to be generated is difficult to determine with accuracy as it depends on the rainfall and frequency of deck washing. Oily water from bilges will be collected and treated via an oil-water separator in accordance with MARPOL requirements (<15 mg/L (v) oil-in-water). Once separated, the oil and grease will be stored in suitable containers ahead of transfer ashore for recycling and the treated water discharged to ocean. Cooling Water and Desalination Brine Seawater will be pumped aboard the vessel, circulated through various process and marine heat exchangers prior to discharge back into the ocean at a temperature higher than ambient seawater. The seawater is typically treated with biocides then directed to sea chests, pump caissons etc to prevent blockage of marine growth inside pipes and exchangers.

	Freshwater is produced on board the vessel via desalination. The freshwater makers on board the comparative facilities (for example, *Montara Venture* FPSO) result in discharge of maximum 40 tonnes per day of brine of 50.5ºC and a maximum salinity of 38.5 ppm. As a comparative study, the Montara FPSO was assessed by GEMS (2003). The potential behaviour of cooling water discharge from the Montara FPSO during production using wind and tidal driven currents during the dominant seasons (winter and summer). The report concluded that the zone of impact associated with temperature impact from the discharge of cooling water is predicted to be extremely limited in extent with the plume mixing to within 2ºC of the ambient temperature within 40 m from the point of discharge. A water quality monitoring program conducted in 2017 (Jacobs 2017) confirmed at 100 m from the point of discharge, the discharge was not greater than 3°C above the ambient water temperature. Sewage, Grey water and Food waste All sewage (including grey water) generated onboard the vessel is discharged through an inline macerator to comminute solids to a diameter of less than 25 mm. With the persons on board (POB) the vessel being typically <35 personnel, the volume of treated sewage and greywater is conservatively estimated to be <21 m^3/d (based on 0.6 m^3/person/d) and putrescible waste of 35 kg/d (based on 1 kg/person/d). These quantities are derived from existing Jadestone Montara Operations estimates and based on the example vessels described in Section 2.9.1. Given the vessel is manned on a continuous basis, discharges of sewage, greywater and putrescible food waste is expected to occur daily throughout the VBA.

6.5.2 Impacts

Sensitive Receptor	Impact description
Water Quality	The impacts associated with the discharge of liquids to the marine environment include a potential change to ambient water quality within the direct vicinity of vessel through chemical loading, increased water temperature, eutrophication, and change in salinity. Deck drainage and bilge water The potential impact associated with the discharge of treated deck drainage and bilge water is a change to ambient water quality through chemical loading within the direct vicinity of the vessel. If not properly managed, the discharge of oily water has the potential to create an oil sheen on surface waters and a temporary localised decline in water quality. Dispersion and biodegradation of potentially contaminated oily water drainage is expected to be rapid and highly localised resulting in no long-term or adverse effects on water quality and the consequence was assessed as ***negligible***. Cooling water and desalination brine Cooling water discharges to the marine environment will result in a localised and temporary increase in the ambient water temperature of approximately 10ºC. Once discharged into the ocean, the cooling water will initially be subject to mixing due to ocean turbulence and some heat will be transferred to the surrounding waters. The plume will then disperse and rise to the ocean surface, where further loss of heat and dilution will occur (Black et al. 1994). The volume of water discharged will be small compared to the receiving waters, the environmental effects of the elevated temperature of discharged waters is therefore predicted to be insignificant due to the large buffering capacity of the ocean. The plume will quickly lose heat and water in only a small area around the outfall will have a substantially elevated temperature (Black et al. 1994). The consequence was assessed as localised with full recovery predicted at the end of the Program, hence ranked ***negligible***.

Sensitive Receptor	Impact description
	Residual brine typically has a salinity of 40,000 ppm in comparison to seawater which has a salinity of 35,000 ppm. Any increase in salinity within the receiving environment as a result of desalination brine discharges is expected to be limited to the immediate point of discharge. As brine is of greater density than seawater and it is expected to sink and rapidly disperse in the currents. The consequence was assessed as localised with full recovery predicted in the short-term following completion of the Program, hence ranked ***negligible***. Sewage, grey water and putrescible waste The potential impact associated with the routine discharge of sewage, grey water and putrescible waste on water quality is changes to ambient water quality and BOD levels from nutrient loading within the direct vicinity of the vessel. The discharges of treated sewage and grey water result in localised increases in nutrient concentrations, generate an increase in bacterial activity and associated Biological Oxygen Demand (BOD) in receiving waters and may promote localised elevated levels of phytoplankton due to nutrient inputs. However, the open water conditions and swift currents of the receiving environment will dilute the discharge and prevent environmentally significant reductions of oxygen levels in the water column (Somerville et al. 1987, cited in Swan et al. 1994). The consequence was assessed as localised with full recovery predicted in the short term once the vessel departs the area, hence ranked negligible. The consequence of operational discharges to the water quality are considered to be ***negligible*** given the low toxicity of the discharges and expected dilution within the open water.
Marine fauna: cetaceans, turtles, fish, sharks, rays, seabirds	Changes in water quality as a result of liquid discharges can lead to impacts on fauna including: • Potential chemical toxicity to marine species within the direct vicinity of the vessel; • Potential behavioral change in marine species; • Chemical effects to marine fauna; • Alteration of physiological processes of exposed biota; • Bio-stimulation of planktonic communities; • Biological exposure to pathogens; and • Deposition and accumulation of solids/ particulates leading to a change in sediment quality. Deck drainage and bilge water The potential impact associated with the discharge of treated deck drainage and bilge water is chemical toxicity to marine species within the direct vicinity of the vessel. If not properly managed, the discharge of oily water has the potential to create an oil sheen on surface waters and a temporary localised decline in water quality and toxic effects to marine fauna. Toxicity to marine organisms would be from small amounts of dissolved hydrocarbons in the oily water drainage after treatment. Given that oil and grease residues in oily water drainage will be in low concentrations, the potential for impact is low and would be further reduced due to the strong tidal movements experienced in the region and the naturally turbid environment. Dispersion and biodegradation of potentially contaminated oily water drainage is expected to be rapid and highly localised resulting in no long-term or adverse effects on marine ecology. The consequence was assessed as ***negligible***. Cooling water and desalination brine Discharge of cooling water has the potential to cause changes in marine ecology through elevated temperatures, as well as the presence of anti-fouling biocides with trace chemical concentrations of copper and aluminium ions being discharged. These small amounts of biocides will disperse rapidly

Sensitive Receptor	Impact description
	on discharge to concentrations below levels of environmental concern to marine biota especially demersal fauna. When discharged to the sea surface, cooling water will initially be exposed to the atmosphere and subsequently air-cooled. Upon reaching sea surface cooling water will then be subjected to turbulent mixing and some transfer of heat to surrounding waters. The plume will disperse mainly within surface waters being thermally buoyant, primarily in the direction of prevailing tidal currents (northwest–southeast). A water quality monitoring program conducted in 2017 (Jacobs 2017) confirmed at 100 m from the point of discharge, there has not been greater than 3°C above the ambient water temperature. Most marine species are able to tolerate short-term fluctuations in salinity in the order of 20–30% (Walker and McComb 1990), and it is expected that most pelagic species would be able to tolerate short-term exposure to the slight increase in salinity caused by the discharged brine. Given the relatively low volume of discharge, low increase in salinity and deep, open water surrounding the Operational Area, impacts on fauna from increased salinity in the Operational Area is expected to be ***negligible***. Fish and plankton are likely to be at greatest risk from cooling water discharge impacts since they are most likely to be attracted to the discharge location (fish) or entrained within the discharge plume (plankton). Fish and plankton are relatively small organisms that may experience increased body temperature and altered physiological processes (e.g. increased respiration rate and oxygen demand). However, given that the area of raised water temperature will be highly localised and within the range of temperature on the North-West Bioregion, significant impacts on a larger ecosystem or population levels to fish or plankton are not expected to occur. Given the hydro-dynamically active open water environment surrounding the Operational Area, it is expected that the surface discharges of cooling water and desalination brine would rapidly disperse, cool and dilute in the surrounding waters, therefore temperature, biocides and increased salinity loading leading to changes to water quality or behavioural changes in marine species would be ***negligible***. Only receptors in close proximity to the discharge point have the potential to be impacted with full recovery predicted within weeks. Sewage and greywater and putrescible food waste The potential impact associated with the routine discharge of sewage and grey water and putrescible food waste is changes to water quality resulting in a change in BOD and behavioural responses of marine fauna to discharges as an alternative food source. As cited within NERA (2017), any potential change in phytoplankton or zooplankton abundance and composition is expected to be localised, typically returning to background conditions within tens to a few hundred metres of the discharge location (e.g. Abdellatif 1993; Axelrad et al. 1981; Parnell, 2003). Effects on environmental receptors further up the food chain, namely, fish, reptiles, birds and cetaceans are therefore not expected beyond the immediate vicinity of the discharge in deep open waters. Some fish and oceanic seabirds may be attracted to the vessel by the discharge of sewage. This attraction may be either direct, in response to increased food availability, or secondary, as a result of prey species being attracted to the area. Given the small quantities and intermittent nature of disposal however, any attraction is likely to be temporary and is not expected to result in adverse impacts at an ecosystem or population level and impacts ranked ***negligible***. Summary No important foraging or nesting BIA for marine turtles, fish or marine mammals overlaps the Operational Area. While the northern boundary of the Whale shark foraging BIA does overlap providing potential for whale sharks to be present, their presence is expected to be limited to transiting individuals, due to the size of the whale shark foraging BIA. Impacts overall to marine

Sensitive Receptor	Impact description
	fauna are expected to be short term with rapid recovery and the consequence of operational discharges was assessed as ***negligible.***

Consequence	Ranking
Negligible	Acceptable

6.5.3 Environmental performance

Aspect		**Operational discharges**		
Performance outcome		No unplanned operational discharges within the Operational Area; Operational discharges to sea are in accordance with legislative requirements		
ID	Management controls	Performance standard	Measurement criteria	Responsibility
	Deck drainage and bilge water			
011	Oily water filtering and monitoring equipment fitted and maintained	If required under MARPOL, support vessels have oily water filtering and monitoring equipment that is compliant (e.g. discharges oily water with OIW <15 mg/L) and surveyed/ maintained as per MARPOL	Maintenance records or a pre-mobilisation inspection report (e.g. OCIMF OVID, IMCA CMID, ISM inspection) IOPP certificate	Vessel Master
012	Oily sludge is contained	Oily residue (sludge) is not discharged to sea but is contained and transferred to shore for disposal.	Oil Record Book	Vessel Master
	Cooling water			
013	Water cooled equipment on vessel is maintained in accordance with the PMS	Water cooled equipment/ machinery and heat exchangers maintained in accordance with the PMS	Pre-start inspection shows maintenance is scheduled and completed	Vessel Master
	Desalination brine			
014	Potable water systems are maintained	Potable water systems maintained in accordance with PMS	Pre-start inspection shows maintenance is scheduled and completed	Vessel Master
	Sewage and greywater			

Aspect		**Operational discharges**		
Performance outcome		No unplanned operational discharges within the Operational Area; Operational discharges to sea are in accordance with legislative requirements		
ID	Management controls	Performance standard	Measurement criteria	Responsibility
015	Vessels >400 t STP meets operational needs and is operated in line with MARPOL requirements	Pursuant to MARPOL, vessels have a current International Sewage Pollution Prevention (ISPP) Certificate or equivalent which confirms that required measures to reduce impacts from sewage disposal are in place	Valid ISPP Certificate	Vessel Master
	Putrescible waste			
016	Garbage record book maintained	Vessels' garbage record book maintained to record quantities of food waste in accordance with MARPOL	Garbage Record Book	Vessel Master

6.5.4 ALARP assessment

Based on the impact and risk assessment completed, Jadestone considers the control measures described above are appropriate to manage liquid waste discharges from the VBA to ALARP. Additional controls considered but rejected are detailed below. The potential impacts are considered Acceptable as per Section 0. No further controls are required and therefore ALARP has been demonstrated.

Rejected control	Hierarchy	Practicable	Cost effective	Justification
Wastes stored onboard and transferred to shore for onshore treatment and disposal	Eliminate	No	No	For the longer duration activities such as the monitoring system installation transfers increase the risks of spills/ leaks and safety risks to personnel during transfer operations. Costs associated with complete reengineering such that wastes contained onboard and disposed of onshore, onshore treatment and disposal costs and increase in fuel consumption due to multiple vessel transfers would be disproportionate to the environmental benefit gained given the rapid dilution in offshore water and low potential impact from discharges. For the shorter-term activities such as the annual ROV monitoring, data retrieval and in-field observation it is possible that wastes could be stored onboard for the short duration of the activity. However, as discharges are permissible under MARPOL, the containment of those wastes is not considered to be more environmentally beneficial than the disposal of wastes onshore, and therefore may be discharged during the VBA.
Re-engineer equipment to retain wastes onboard	Engineering	No	No	Costs associated with complete reengineering such that wastes contained onboard and disposed of onshore would be disproportionate to the environmental benefit gained. There is not enough space on board the vessels to have storage tanks for all the waste produced prior to transferring to a vessel for onshore treatment and disposal. Substantial additional costs for re-engineering is grossly disproportionate to the benefit gained.
Installation of an active well monitoring system instead of the passive	Substitution	Yes	No	This system would require a longer period on location for installation and regular vessel visits to site for approximately 2 days every two weeks. This would therefore increase the operational discharges from the activity significantly over the course of each year.
N/a	Isolation	N/a	N/a	The activity is located at distance from sensitive receptors and the coastline and no significant impacts on receptors are predicted.
N/a	Administrative	N/a	N/a	Maintenance management system implemented, compliance with relevant and appropriate MARPOL

				requirements and certified equipment ensure discharges meet regulatory requirements.

6.5.5 Acceptability assessment

The potential impacts of liquid waste discharges are considered acceptable in accordance with Section 0, based on the acceptability criteria outlined below. The control measures proposed are consistent with relevant legislation, standards and codes and the environmental consequence is considered negligible.	
Policy & management system compliance	Jadestone's HSE Policy objectives are met. Section 8 demonstrates that Jadestone's HSE Management System is capable of meeting environmental management requirements for this activity.
Stakeholders & reputation	Stakeholder consultation has been undertaken (see Section 4), and no stakeholder concerns have been raised with regards to impacts from liquid waste discharges on sensitive receptors.
Legislation & Industry best practice	The APPEA Code of Environmental Practice (CoEP) (2008) objectives are met with regards to having appropriate management measures in place to minimise impacts and all wastes are disposed of or recycled at appropriate facilities in accordance with legislative requirements and agreed procedures. Maintenance management system implemented, compliance with relevant MARPOL requirements and certified equipment ensure discharges meet regulatory requirements and are acceptable with standards used globally.
Environmental context & ESD	The activity is located at distance from sensitive receptors and the coastline and no significant impacts on receptors are predicted. While there are liquid waste discharges to sea surface immediately around the vessel, the impact and risk assessment process indicates that discharges will not result in significant effects to marine fauna. The potential impact is considered acceptable after consideration of: • Potential impact pathways: Section 6.5.1 and 6.5.2 assess the pathways and consequences of localized and degradation of water quality to the marine ecosystem; • Preservation of critical habitats: no impacts on Protected Areas or aggregations of sensitive receptors; • Assessment of key threats as described in species and Area Management/ Recovery plans: see Conservation and management advice' below; • Consideration of North-West Bioregional Plan: The Plan considers vessel marine discharges and effluents (with associated temperature, BOD and turbidity impacts) as potential concern to various KEFs (Seringapatam Reef and Commonwealth waters in Scott Reef complex, Rowley Shoals and Ningaloo Reef). No KEFs are impacted from operational discharges. Avifauna, dolphin, turtle, sea snakes, shark, and dugong are also mentioned in the NW Bioregional Plan but no BIA are predicted to be affected by the vessel discharges above 'negligible'; and • Principles of ecologically sustainable development (ESD): there are no impacts from operational discharges to biological diversity or ecological integrity and no irreversible damage with full recovery in the short term predicted.
Conservation and management advice	No Management Plans identified operational discharges such as those described above as being a threat to marine fauna or habitats Jadestone has had regard to the representative values of the protected areas within the EMBA, and the respective management plans and other published information. Impacts

	from liquid discharges will have a negligible impact on any of the social and ecological objectives and values, of any AMPs, or state MPs. This is consistent with the objectives of the protected area management plans (Appendix B) and considered acceptable.

6.6 Spill Response Activities

6.6.1 Description of aspect

Spill Response	In the event of a hydrocarbon spill, contingency spill response activities will be undertaken to reduce the level of impact to sensitive receptors within the environment. In summary, the response activities include: • Source control; • Monitoring, evaluation and surveillance; • Oiled wildlife response; and • Scientific monitoring. The Sea Eagle and Tahbilk Vessel Based Activity OPEP (TM-70-PLN-I-00005) (the OPEP) provides further detail on how these strategies will be implemented. While the aim of undertaking these spill response activities is to reduce environmental impacts from the spill, there is the potential for these activities to create additional impacts or to exacerbate existing oil spill impacts. Poorly selected or implemented spill response activities may therefore do more environmental harm than good. Spill response activities will involve: • The use of vessels which are required at a minimum to display navigational lighting. Vessels may operate near shoreline areas during spill response activities; • The use of aircraft and vessels which will generate noise both offshore and in proximity to sensitive receptors in coastal areas; • The use of fuels to power vessel engines, generators and mobile equipment that will result in emissions of greenhouse gases (GHG) such as carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O), along with non-GHG such as sulphur oxides (SO_x) and nitrous oxides (NO_x); • Operational discharges including those routine discharges (Section 6.5) from vessels used during spill response. In addition, there are specific spill response discharges and waste creation that may occur, including: ○ Cleaning of oily equipment/vessels; ○ Sewage/putrescible and municipal waste on vessels; and ○ Creation, storage and transport of oily and contaminated waste. • Oiled wildlife response activities may involve deliberate disturbance (hazing), capture, handling, cleaning, rehabilitation and release of wildlife.

6.6.2 Impacts

The key environmental impacts associated with the potential spill response strategies are provided together with a description of associated potential impacts to sensitive receptors. Some of these hazards are unique to spill response (e.g. oiled wildlife response). Some hazards common to the operations have also been detailed and re-evaluated on the basis that the environment within which spill response activities take place may be of higher sensitivity than the environment within which the VBA occurs.

Table 6-2: Impact assessment of spill response activities

Sensitive Receptor	Impact description
Light	The receptors considered most sensitive to lighting from vessel operations are seabirds/ shorebirds and marine turtles. Emerging turtle hatchlings on the beaches are particularly sensitive to light spill, however, the potential impact is considered negligible as stated below. Section 6.2 provides further detail on the nature of light impacts to fish, birds and marine turtles. Given the offshore location of the potential EMBA, vessels will likely be positioned offshore for the activity. Following restrictions on night-time operations by spill response vessels, which will demobilise to mooring areas offshore with safety lighting only, light impacts from vessels are considered to be ***Negligible***. These species are likely to be values of the protected area they occur in, and the impact to the protected area from light is also considered ***Negligible***. Response activities may occur within the highly sensitive locations of Ashmore Reef, Cartier Island, response activities related light impacts to the key values within the applicable Management Plans are also expected to be ***Negligible*** due reasons described above.
Noise	The receptor considered most sensitive to vessel noise disturbance are cetaceans. The humpback whale and Pygmy blue whale (migration) BIAs overlap the EMBA and species may be vulnerable during their peak activity season (July–October; April - Aug) as they migrate north/ south through the EMBAs (Section 3). They do not overlap the diesel spill Ecological EMBA. Control measures, by means of compliance to Part 8 of EPBC Regulations, will reduce potential impacts from response activities within this area during whale activity seasons. Given the activity will only introduce vessel engine noise, the consequence is considered consistent with noise impacts from activities (***Negligible***). Section 6.3 provides further detail on these impacts from vessels. Onshore response activities are not planned.
Atmospheric	Atmospheric emissions from spill response equipment such as the use of mobile equipment, vessels and vehicles may result in a temporary, localised reduction of air quality in the environment immediately surrounding the emission points. Atmospheric emissions from spill response equipment will be localised and impacts to even the most sensitive fauna, such as birds, are expected to be ***Negligible***.
Operational discharges	Operational discharges from vessels may create a localised and temporary reduction in marine water quality, which has the potential to impact shallow coastal habitats in particular (e.g. around Ashmore reef. However, following the adoption of regulatory requirements for vessel discharges, which prevent discharges close to shorelines, discharges will have a ***Negligible*** impact. Furthermore, washing of vessels and equipment will take place only in defined offshore hot zones preventing impacts to shallow coastal habitats. Sewage, putrescible and municipal waste generated onshore will be stored/disposed of at approved locations. There will be no discharges of this waste to the marine or coastal environment and the likelihood of an unplanned discharge is considered Unlikely following those controls provided. If those controls failed, and secondary contamination or loss of municipal waste occurred the additional consequence to coastal habitat has been assessed as Minor. The risk ranking for an unlikely event with a ***Minor*** consequence is ***Low***. The response activities may occur within the Protected Areas, response activities related discharge impacts to the key values within the Protected Area also expected to be ***Negligible***, with low risk of any unplanned releases.

Sensitive Receptor	Impact description
Physical presence	Wildlife response The main direct disturbance to fauna would be the hazing, capture, handling, transportation, cleaning and release of wildlife susceptible to oiling impacts, such as birds and marine turtles. This would only be done if this intervention were to deliver a net benefit to the species but may result in a Minor consequence following close adherence to the WA and NT Oiled Wildlife Response Plans and the Kimberley Region Oiled Wildlife Response Plan. Physical disturbance in protected areas These habitats/environments are likely to be values of the protected area they occur in, and the impact to the protected area from physical disturbance is considered ***Minor***.
Invasive Marine Pests-IMP	The mobilisation of vessels and equipment into sensitive habitats brings the potential for non-indigenous and potentially invasive species, attached as biofouling, in the case of vessels. The release of such species is an unplanned event which is considered to have a likelihood of Unlikely following vessel risk assessments (on all international and interstate Australian vessels) and pre-cleaning and quarantine inspections of onshore equipment. The consequence of an outbreak of an invasive marine pest is considered Major in the nearshore/ coastal environment, which is more conducive to establishment of invasive marine pests than deeper offshore waters. Given the Unlikely likelihood, the overall Risk Ranking is ***Medium***.
Disturbance to other users	The use of vessels in the nearshore and offshore environment and spill response activities at shoreline locations, and within townships, may exclude general public (community villages) and industry use. It should be noted that this is distinct from the socio-economic impact of a spill itself which would have a far greater detrimental impact to industry and recreation. Following the controls outlined, it is considered that the additional impact of spill response activities on affected industries would be ranked ***Minor***.

6.6.3 Environmental performance

The OPEP contains environmental performance measures for spill response preparedness and implementation.

6.6.4 ALARP assessment

The purpose of implementing spill response activities is to reduce the severity of impacts from an oil spill to the environment. However, if the strategies do more harm than good (i.e. they are not having a net environmental benefit) then the spill response is not ALARP. The key process in determining if the strategies employed are having a net benefit is the net environmental benefit analysis (NEBA). A NEBA is conducted for each operational period during a response to ensure the best strategies are being implemented and the ALARP principle is regularly tested (refer to the OPEP for further detail).

It is best practice to ensure all possible response strategies have been evaluated and, if there is the potential to produce a net environmental benefit, to have them in the toolbox ready for implementation if determined feasible for the scenario (IPIECA (2015). Contingency planning for oil spill on water: Good practice guidelines for the development of an effective spill response capability).

For each of the environmental hazards associated with spill response strategies an ALARP evaluation was conducted as part of the hazard identification workshop (HAZID). A number of controls were identified as industry and/ or Jadestone standard controls that will be considered during a spill response while additional controls were evaluated and either accepted or rejected on the basis of the ALARP principal, i.e. a decision was based on whether the additional control would have a cost/effort disproportionate to the level of impact reduction it would provide.

Note that some of the potential impacts to fauna from spill response activities can be beneficial in the prevention of oiling by acting as deterrents

An evaluation of applicable response strategies is provided in Section 4.6 of the OPEP.

6.6.5 Acceptability assessment

The potential impacts of spill response activities are considered 'Acceptable' in accordance with the Environment Regulations, based on the acceptability criteria outlined below. The control measures proposed are consistent with relevant legislation, standards and codes.	
Policy & management system compliance	Jadestone's HSE Policy objectives are met. Section 8 and the OPEP demonstrate that Jadestone's HSE Management System is capable of meeting environmental management requirements for this activity including spill response arrangements.
Stakeholders & reputation	Stakeholder consultation has been undertaken (Section 4), and no stakeholder concerns have been raised with regards to spill response activities. Consultation included engagement with National response agency AMSA, nearby operators, AMOSC, as well as commercial and recreational fishing industry bodies and fishers. No stakeholder concerns have been raised with regards to impacts of the spill response activities on relevant persons. During any spill response, a close working relationship with key regulatory bodies (e.g. DBCA, AMSA, DEPWS) will occur and thus there will be ongoing consultation with relevant persons during response operations.
Environmental context & ESD	The worst-case credible spill scenario for the VBA is a loss of up to 400m^3 of marine diesel due to a vessel collision with no predicted floating or shoreline accumulation above the moderate thresholds predicted. Response activities are undertaken in accordance with controls which reduce and/or prevent additional risks. The mutual interests of responding and protecting sensitive receptors from further impact due to response activities is managed through the use of a net environmental benefit analysis during response strategy planning in preparedness arrangements as well as during a response. The potential impact is considered acceptable after consideration of: • Potential impact pathways: pathways and proposed management are described under individual activities and aspects in Section 6.6.2; • Preservation of critical habitats: described under individual Tactical Response Plans, and ALARP measures considered (OPEP) to ensure response activities do not increase the risks to critical habitats from spills; • Assessment of key threats as described in species and Area Management /Recovery plan: see 'Conservation and Management Advise' below; • Consideration of North-West Bioregional Plan: no specific discussion of spill response activities but impacts such as light, noise, vessel discharges, collision with fauna etc are discussed individually under the planned aspects above. As such, the proposed management control to minimise impacts under this EP, are aligned with the objectives of the NW Bioregional Plan; and • Principles of ecologically sustainable development ESD: Operational NEBA assessments ensure the environmental impacts are neutral or positive; thus, potential impacts to biodiversity and ecosystem integrity minimised.
Conservation and management advice	Jadestone Energy will have regard to the representative values of the reserves and other information published and endeavour to ensure that priority is given to the social and

	ecological objectives and values, of any AMPs, or state MPs impacted by spill response activities to ensure that the objectives of the management plans are not contravened (Appendix B). Noting 'Emergency response' is permitted in all AMPs and State MPs. Actions required to respond to oil pollution incidents, including environmental monitoring and remediation, in connection with activities authorised under the OPGGS Act may be conducted in all zones. The Director will be notified in the event of an oil pollution incident that occurs within, or may impact upon, an Australian MP and, so far as reasonably practicable, prior to a response action being taken within a MP. The Management Plans for EPBC protected species that identify light, noise and other risks through Sections 6.1 – 6.6 apply here. The 'Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species' will be applied/used as guidance in the event of an oil spill.

7. UNPLANNED RISKS

This section of the EP describes the potential risks and environmental impacts from accidental events that may arise during the VBA and associated mitigation and management measures that will be implemented to reduce risks and impacts to as low as reasonably practicable and acceptable levels.

The environmental risk assessment process identified five accidental environmental risks. The pre-treatment and residual risk rankings are summarised in Table 7-1 and presented in detail throughout this section.

Table 7-1: Summary of the environmental risk assessment ranking for accidental events

Hazard	Residual Ranking
Marine pest introduction and establishment	Medium
Interaction with fauna	Low
Unplanned release of solids overboard	Medium
Unplanned release of non-hydrocarbon liquids	Low
Unplanned release of diesel	Low
Unplanned release of crude oil	Medium

7.1 Marine Pest Introduction

7.1.1 Description of hazard

Invasive Marine Pests (IMP)	Biofouling on immersed surfaces (e.g. ship hulls), floating/ immersible equipment and within internal seawater circulation systems, as well as ballast water, are potential pathways for invasive marine pests (IMPs) to translocate on vessels and equipment. There is the potential for support vessels to transfer IMPs from international waters into the Operational Area and for them to establish in the local environment. There is a smaller risk of transfer of IMPs from Australian waters. There is also a theoretical potential for IMPs to be transferred into Australian Territory and coastal waters via support vessels when commuting from the Operational Area to/ from State/ Territory or Commonwealth waters.

7.1.2 Impacts and risks

The introduction and establishment of IMPs can result in impacts on native marine fauna and flora, including:

- Competition, predation or displacement of native species;
- Alteration of natural ecological processes;
- Introduction of pathogens with the potential to impact human and/or ecological health;
- Reduction and/or competition with commercial fish and aquaculture species; and
- Increased requirement for maintenance of vessels and marine infrastructure.

Potential sources for the transfer and establishment of IMPs include:

- Biofouling on vessels and other external niches (e.g. propulsion units, steering gear and thruster tunnels);

- Biofouling of vessels or other internal niches (e.g. sea chests, strainers, seawater pipe work and anchor cable lockers);
- Biofouling on equipment that routinely becomes immersed in water (including but not limited to equipment such as ROVs); and
- Discharge of high-risk ballast water taken up from international or domestic sources.

Ballast water is responsible for up to 30% of all IMP incursions into Australian waters, however, research indicates that biofouling (the accumulation of aquatic micro-organisms, algae, plants and animals on vessel hulls and submerged surfaces) has been responsible for more foreign marine introductions than ballast water (DAWR 2017).

There are three key steps involved for a successful IMP incursion:

- Colonisation and establishment of the IMP on a vector (e.g. vessel) in a donor region (e.g. home port);
- Survival of the organism on the vector during the voyage from the donor to the recipient region; and
- Colonisation (e.g. reproduction or dislodgement) of the recipient region by the IMP, followed by successful establishment of a viable new population which then constitute a 'pest' presence (Commonwealth Government, 2009).

Colonisation requires suitable environmental conditions for that particular species including water temperature, water depth, salinity and habitat type. As such, most exotic marine species introduced to Australian waters have distributions restricted to shallower coastal habitats. IMPs able to survive outside of their natural range may pose a significant threat to the Australian marine environment. It is estimated that Australia has over 250 established marine pests, and it is estimated that approximately one in six introduced marine species becomes pests (DoE 2015).

Following their establishment, eradication of marine pest populations is often extremely difficult and costly, limiting management options to ongoing control or impact minimisation. For this reason, increased management requirements have been implemented by Commonwealth and State agencies with the implementation of Australia's National System for the Prevention and Management of Marine Pest Incursions which focusses on managing biofouling and ballast water.

The Australian Ballast Water Management Requirements (DAWE, 2020) set out the obligations on vessel operators with regards to the management of ballast water and ballast tank sediment when operating within Australian seas. These requirements include legislative obligations under the:

- Biosecurity Act 2015 (Biosecurity Act), and
- International Convention for the Control and Management of Ships' Ballast Water and Sediments (Ballast Water Convention).

The requirements provide guidance for vessel operators on best practice policies and apply to all vessels operating internationally and domestically in Australia. These requirements are also described in Jadestone's Marine Biosecurity Manual (JS-70-MN-G-00001).

Biofouling

The central Commonwealth instrument for the control of biofouling related IMS risks is the Biosecurity Act 2015. The Biosecurity Amendment (Biofouling Management) Regulations 2021 (biofouling regulations) entered into force on 15 June 2022. This introduced requirements for operators of all vessels to provide information on biofouling management practices prior to arriving in Australia.

Australian biofouling management requirements Version 2 (DAFF, 2023) provide details of Australia's pre-arrival reporting requirements and guidance for operators of international vessels that are subject to biosecurity control while in Australian territorial seas. The requirements set out vessel operator obligations

for the management of biofouling when operating vessels under biosecurity control within Australian territorial seas to comply with the Biosecurity Act 2015. These requirements are also described in Jadestone's Marine Biosecurity Manual (JS-70-MN-G-00001).

The potential biofouling-mediated IMP transfer risk presented by vessels, is influenced by a number of inter-playing factors. These factors include the type and age of the anti-fouling coating, operational and maintenance history since last drydocking (including where the vessel had been operating), length of time intended to operate in Australian coastal waters and whether the vessel has undergone biofouling inspection and/or cleaning prior to entering Australian waters.

Any vessel or marine infrastructure destined for WA waters from interstate or overseas is required to meet the aquatic biosecurity standards set out under the *Fisheries Resources Management Act 1994*, including, as may be warranted, a Marine Biosecurity Inspection for the purposes of assessing the presence of known and potential IMPs to ensure compliance with Regulation 176. The responsible agency, the WA Department of Primary Industries and Regional Development (DPIRD) has promulgated a list of declared marine pest species.

None of the WA listed marine species of concern should be present on any vessel intended to visit WA waters due to legislated management requirements. In accordance with marine pest management guidelines (as enforced under the *WA Fisheries Resources Management Act* 1994; and Fish Resources Management Regulations 1995):

- Immersible equipment and the vessel hull, sea chests and other niches must be 'clean' before vessels enter WA waters and ports;
- To minimise risk, a vessel should leave its last overseas port of call within seven days of the last anti-fouling coating application or IMP inspection, prior to direct transit to its target port/area in WA waters. If experiencing delays or deviations, you should seek advice from the Department; and
- The suspected or confirmed presence of any marine pests or disease must be reported within 24-hours by email (biosecurity@fish.gov.au) or telephone (FishWatch tel: 1800 815 507). This includes any organism listed on the WA Prevention List of Introduced Marine Pests, and any other non-indigenous organism, that demonstrates invasive characteristics.

Ballast water

The Commonwealth Department of Agriculture (DoA: formerly the Department of Agriculture and Water Resources [DAWR]) is the lead agency for management of ballast water, with responsibility for the management of ballast water sourced both from international and domestic (i.e. Australian) locations. DoA introduced the Australian Ballast Water Management Requirements (DAWR 2017) that are enforced under the *Biosecurity Act 2015* (as amended). Under these arrangements, all vessels that intend to discharge ballast water in Australian waters are obligated to assess and manage their ballast water in accordance with DoA requirements. These arrangements prohibit the discharge of high-risk ballast water within Australian territorial seas (within 12 NM of the Australian territorial sea baseline) unless the ballast water has been managed to the satisfaction of DoA or is otherwise assessed to be 'low risk', and prior approval has been obtained for that discharge. By extension, all vessels, mobilised for the project and intending to discharge ballast water within the Australian territorial sea (i.e. within 12 NM of the Australian territorial sea baseline) will be required to manage ballast water to the satisfaction of DoA.

The DoA requires vessels that operate between Australian ports and offshore oil and gas installations within the Australian Exclusive Economic Zone (EEZ) to manage their ballast water before arrival at both the installation and the Australian port. The acceptable area for a ballast water exchange between an installation and an Australian port is in sea areas that are no closer than 500 m from the offshore installation, and no closer than 12 NM from nearest land.

Ballast water discharged in the same place where the ballast water is taken up is considered low risk. There is no requirement to manage ballast water that is taken up and discharged in the same place if the low risk water is at least 95 % from the 'same place' to be within one nautical mile of the point of uptake, or within the port limits of the same port.

Support vessels are required to adhere to Australian ballast water management requirements, as detailed in the *Australian Ballast Water Management Requirements, Version 7*. As such and assuming adherence to mandatory Australian requirements, no adverse effects are expected from the discharge of ballast water by vessels engaged in the VBA.

Sensitive Receptor	Impact description
Benthic habitats	The Operational Area benthic habitat comprises soft sandy sediments in 70 to 80 m water depth, open ocean conditions and lacking abundant light at this depth. The only hard substrate available is that associated with the wellheads. Given these conditions, the successful establishment of introduced species on the natural habitat is considered unlikely. There is a possibility of establishment on the artificial substrate in the area, but this too is considered to be unlikely. If IMPs were introduced and established successfully on the benthic habitat, it could result in an overall change in localised areas and some degradation of the ecosystem. The potential impact was assessed as ***Minor*** *effect; recovery in weeks to months; death of individuals* as impacts could result in potential mortality to fauna associated with the benthic habitat, with impacts likely localised to within approximately 1 km of the activity.
Fish and Fisheries	There are increased concerns regarding fishery impacts following the introduction of IMPs into Australian waters. Should IMPs be introduced, they have the potential to outcompete and displace native species which may in turn affect the local marine ecosystem, and potentially fisheries operating in the area affected. However, the Operational Area does not contain any known critical areas (i.e. feeding, breeding) or highly significant habitat (i.e. coral reef, seagrass) for fish. It is also unlikely that IMPs will be able to establish and reproduce in water depths of the Operational Area. However, if IMPs were established, it may have a ***Moderate*** impact - *Local effect; recovery in months to a year; impact to localised community.*
Likelihood assessment	
Unlikely	Asian green mussel, American slipper limpet and Black striped false mussel were detected in Darwin marinas in 1999 and were successfully eradicated. No recognised marine pest species are known to be established in Darwin harbour. Vessels operating from Darwin are expected to have arrived there free of IMPs, it is therefore unlikely that they would acquire any pest species from Darwin. Furthermore, it is not likely that IMPs entering the Operational Area would establish on the benthic habitat (soft sediments). The water depth, open ocean conditions and lack of available light provides a very different environment to that within sheltered port and shallow coastal areas which have historically been colonised by IMPs. Some possibility exists of establishment on the artificial substrate in the area, including the pipeline adjacent to the Sea-Eagle-1 wellhead but if so, such colonisation would in all probability be confined to the artificial substrate. The likelihood of a potential introduction and establishment of IMPs is considered ***unlikely*** for this location with the intended controls in place.

Consequence	Likelihood	Ranking
Moderate	Unlikely	Medium

7.1.3 Environmental performance

Hazard		**Marine Pest Introduction**		
Performance outcome		No introduction of marine species		
ID	Management controls	Performance standards	Measurement criteria	Responsibility
035	Vessels comply with the Biosecurity Manual (JS-70-MN-G-00001)*	All vessels demonstrate compliance with the biosecurity manual requirements	Documented evidence of compliance with DAWE ballast water management requirements. Documented evidence of effective management of ship biofouling management, consistent with National Biofouling Management Guidance for the Petroleum Production and Exploration Industry (2009).	Marine Superintendent

* The biosecurity manual applies to all marine vessel operations undertaking VBA In the Operational Areas and has as its purpose to:

a) Describe the marine biosecurity management process for Jadestone Energy (Australia) Pty Ltd activities including vessels contracted to perform marine operations.

b) Prevent the introduction of Invasive Marine Pests (IMP) into Australian Waters and the Operational Area through translocation vectors such as marine and petroleum vessels, immersible equipment and
ballast water.

c) Ensure contracted vessels and vessel operators are aware of and apply the marine biosecurity requirements when chartered to execute their scope of work.

d) Ensure compliance with Commonwealth and State Australian Government legislation.

e) Detail the risk-based approach and mitigations used to reduce the risk of IMPs being introduced to the Operational Area to As Low as Reasonably Practicable (ALARP).

7.1.4 ALARP assessment

On the basis of the impact and risk assessment process completed, Jadestone considers the control measures described above are appropriate to manage the risk of IMPs being introduced and getting established to the level of ALARP. The residual risk ranking for this potential impact is Medium. Good industry practice has been applied for the situation or risk. Additional controls were considered but rejected as detailed below. No further controls are required and therefore ALARP has been demonstrated.

Rejected control	Hierarchy	Practicable	Cost effective	Justification
Support vessels to be sourced only from Australian waters	Eliminate	No	No	Wherever possible, domestic vessels will be sourced, but this may not always be feasible. Delays to activities can result from non-availability of suitable vessels if only drawn from Australian waters. Regardless, all vessels are subject to IMP risk assessment and must manage their ballast water and biofouling in accordance with regulatory requirements. Minimal benefit gained given the implemented controls ensure only low IMP risk vessel are contracted.
Follow-up marine pest inspection around 75 days after arrival if the vessel is still in WA waters	Isolation	No	No	The objective is to ensure that vessels engaged in VBA are free of IMPs at the time of mobilisation. Accordingly, the residual risk of IMP is considered low due to inspection and cleaning controls and the need for any follow-up inspections of vessels 75 days after arrival is negated. If any IMP enters the Operational Area, the nearest habitat are the wellheads or the benthic habitat (sandy seabed) and the environment is hostile compared to sheltered port and shallow coastal areas which have historically been colonised by IMPs.
Application of new anti-fouling coating to all vessels prior to contract commencement	Engineering	No	No	Substantial additional cost, potential delay to commencement of activity. Little benefit given the requirement to rank as low risk using the IMP risk assessment. Anti-fouling coating on the in-water surfaces of vessels, and the chemical dosing of sea chests (marine growth prevention system) will occur. Anti-fouling coatings containing TBT are not an option as these biocides are prohibited from use in Australia.

7.1.5 Acceptability assessment

The potential impacts of marine pest introduction are considered 'Acceptable' as the residual risk is Medium and ALARP can be demonstrated (refer above), based on the acceptability criteria outlined below. The control measures proposed are consistent with relevant legislation, standards and codes.

Policy compliance	Jadestone's HSE Policy objectives are met.
Policy & management system compliance	Section 8 demonstrates that Jadestone's HSE Management System is capable of continuously reviewing and updating activities and their practices to reflect the requirements of marine pest management in Australian waters.

Stakeholder & reputation	Stakeholder consultation has been undertaken (see Section 4), and no stakeholder concerns have been raised. Jadestone will continue to liaise with WA Department of Primary Industries and Regional Development (Fisheries) on current requirements for the management of the risk of marine pest introduction in WA and NT waters.
Law and industry best practice	The implementation of a Biofouling Management Plan and the maintenance of a Biofouling Record Book are consistent with the National Biofouling Management Guidance for the Petroleum Production and Exploration Industry (2009), and in the IMO Guidelines for the Control and Management of Ships' Biofouling to Minimise the Transfer of Invasive Aquatic Species. Ballast water management will be consistent with the requirements of the Biosecurity Act 2015, as detailed in the *Australian Ballast Water Management Requirements, Version 7*.
Environmental context & ESD	Section 7.1.2 notes it is unlikely that IMPs entering the Operational Area will establish and propagate. The potential residual risk is considered acceptable after consideration of: • Potential impact pathways: section 7.1.1 and 7.1.2 assess risks from biofouling and ballast water; • Preservation of critical habitats: activities are remote from Protected Areas and shallow water, protected environments where the establishment of IMPs is more likely; • Assessment of key threats as described in species and Area Management/ Recovery plans: See 'Conservation and management advice' below; • Consideration of North-West Bioregional Plan: The NW Bioregional Plan mentions the potential for Asian green mussels Perna viridis to cause damage in Commonwealth waters of the NW Marine Region, but these mussels typically prefer habitat up less than about 12 m deep. The proposed management actions align with the NW Bioregional Plan objectives by minimizing the risks; and • Principles of ecologically sustainable development (ESD): the proposed management of biofouling and ballast water risks minimizes the likelihood to adverse effects on biodiversity and ecosystem integrity from invasive species.
Conservation and management advice	Application of guidelines detailed in the National Biofouling Management Guidance for the Petroleum Production and Exploration Industry (2009), and in the IMO Guidelines for the Control and Management of Ships' Biofouling to Minimise the Transfer of Invasive Aquatic Species. Jadestone has had regard to the representative values of the protected areas within the Operational Area, and the respective management plans and other published information. Impacts from any hypothetical successful establishment of marine pests will not impact on any of the social and ecological objectives and values, of any AMPs, or state MPs. This is consistent with the objectives of the protected area management plans (Appendix B) and considered acceptable.

7.2 Interaction with fauna

7.2.1 Description of hazard

Interaction with fauna	The movement of support vessels and helicopters in the Operational Area increases the potential for physical or disruptive interaction with marine fauna.

7.2.2 Impacts and risks

Fauna most susceptible to vessel strike include cetaceans, whale sharks and turtles, and this is reflected as a threat in many of the conservation advice and recovery plans for these species (refer Appendix B). Other fauna such as fish and sea snakes are more likely to avoid vessels and so are considered at low risk of potential strike and will not be discussed further.

Marine Mammals

Cetaceans are naturally inquisitive and often attracted to vessels underway; for example, dolphins commonly 'bow ride' with vessels. There have been recorded instances of cetacean deaths as a result of vessel collisions in Australian waters (e.g. a Bryde's whale in Bass Strait in 1992) (WDCS 2006). The data indicates deaths are more likely associated with container ships and fast ferries. Collisions between vessels and cetaceans are more frequent on continental shelf areas where high vessel traffic and cetacean habitat occur simultaneously (WDCS 2006).

Vessel speed is a strong contributor to the rate of collisions with marine fauna, with increasing vessel speed resulting in a higher collision risk (Hazel et al. 2007; Silber et al. 2010). A study on collisions between ships and whales (Laist et al. 2001) observed that most lethal or severe injuries to cetaceans involved vessels 80 m or longer in length and were associated with vessels travelling at 14 knots or faster.

The reaction of whales to the approach of a vessel is variable. Some species remain motionless when in the vicinity of a ship while others are known to be curious and approach ships that have stopped or are slow moving, although they generally do not approach, and sometimes avoid, faster moving ships (Richardson et al. 1995).

The Conservation Management Plan for the Blue Whale (DoE 2015) identifies vessel strike as a threat to the species.

Marine Turtles and Sharks (Whale Sharks)

Marine fauna like turtles and whale sharks that are present in shallow waters or surface waters are susceptible to vessel strike due to their proximity to the vessel (hull, propeller or equipment), presence at the surface (breathing, basking etc) and their limited ability to avoid vessels.

Whale sharks may be behaviourally vulnerable to boat strike. They spend a significant amount of time feeding in surface waters (DEH 2005; Norman 1999) and scars have been observed on several whale sharks that have likely been caused by boat collision (DEH 2005). There have also been several reports of whale sharks being struck by bows of larger ships in other regions where whale sharks occur (Norman 1999).

Marine birds

Should listed or migratory bird species transit the Operational Area, the worst-case consequence of a bird strike with a helicopter would be a fatality of individuals with no lasting effects to populations.

Sensitive Receptor	Impact description
Marine mammals	The likelihood of vessel/ whale collision being lethal is influenced by vessel speed: the greater the speed at impact, the greater the risk of mortality (Laist et al. 2001, Jensen and Silber 2003). Vanderlaan and Taggart (2007) found that the chance of lethal injury to a large whale as a result of a vessel strike increases from about 10% at 4 knots to 80% at 15 knots. Cetaceans demonstrate a variety of behaviours in response to approaching vessels (attributed to vessel noise), including longer dive times and moving away from the vessel's path with increased speed (Baker and Herman, 1989; Meike et al., 2004). These behaviours may also contribute to reducing the likelihood of a vessel strike. Three listed threatened and migratory species of cetacean potentially occur or have habitat in the Operational Area: the sei whale, blue whale, fin whale and humpback whale. There are no known key

Sensitive Receptor	Impact description
	aggregation areas located within or immediately adjacent to the Operational Area. The likely worst-case consequence from a support vessel strike to a marine mammal would be the fatality of a single adult, but no effect to populations. With the controls implemented to reduce likelihood of impacts to marine mammals, potential disturbances are expected to be Minor – Minor effect; death of individuals.
Marine reptiles	Turtles are susceptible to vessel strikes when resting on the surface and surfacing to breathe. While turtles typically avoid vessels by rapidly diving, their response varies significantly in relation to the speed of the vessel and the activity of the turtle. Hazel et al. (2007) suggested that higher vessel speed is more likely to cause impacts in shallow waters where turtles are abundant and the success of avoidance behaviour is a factor of the response time available (i.e. visual observation distance/ vessel speed). Six species of listed threatened and migratory marine turtle were identified as potentially occurring in, or having habitat in the Operational Area; loggerhead, green, leatherback, hawksbill, olive ridley/Pacific ridley and flatback turtles (Section 3). Marine turtles are predominantly oceanic species except in the nesting season when they come ashore. There are no shorelines near the Operational Area, but turtles may transit the Operational Area to forage on nearby shoals with the closest nesting areas 106 km away (green turtle, Cartier Island). Vessel strike is an identified impact within relevant conservation and recovery plans for marine turtles. However, vessel strikes are unlikely in the Operational Area where vessels are travelling at low speeds. The worst-case consequence was assessed as the potential mortality of an individual adult but no effects on the population size at either a local or regional scale i.e. Minor - Minor effect; recovery in weeks to months; death of individuals.
Whale sharks	Although the Whale shark's skin is thicker and tougher than other shark species, the species may be more vulnerable to boat strike as they spend a significant amount of time close to the surface (DEH 2005a). The most northern part of whale shark foraging BIA overlaps the Operational Area. However, only occasional individuals are expected to occur as there are no Whale shark aggregations (such as the Ningaloo Reef aggregation) within the region. A whale shark management plan (No. 57) (2013) is in place and directs the management of whale sharks with specific reference to whale shark interaction in reserves – particularly Ningaloo Marine Park. This plan provides a code of conduct for vessels that are purposely interacting with whale sharks (for tourism purposes) and requests a 250m separation from whale sharks. By implementing a minimum 300m distance, Jadestone's activity will be complying with this recommendation. The worst-case consequence was assessed as Minor due to the potential mortality to an individual adult – Minor effect; recovery in weeks to months; death of individuals.
Seabirds.	Helicopter movements have the potential to affect birds through direct strike, however, considering the high visibility and noise levels associated with helicopter movements, birds are expected to avoid collisions. Flights occur in the daylight and not within major roosting areas, thereby reducing potential interactions and subsequent impacts. Collisions are therefore assessed as Minor due to the potential mortality to individual adults– Minor effect; recovery in weeks to months; death of individuals).
Likelihood assessment	
Unlikely	Vessel speeds within the Operational Area are low and are required to be less than 5 knots within the 500 m PSZ established around the wellhead for certain activities. Hence the chance of a vessel-cetacean collision resulting in lethal outcome is reduced. Due to the general low vessel speeds, warning noise of helicopters and lack of any significant bird or cetacean/reptile aggregations nearby, the chance of a vessel collision

Sensitive Receptor	Impact description
	with marine fauna and bird strikes resulting in a lethal outcome is reduced as individuals are expected to take avoidance behaviour. Worst case risks are on an individual level and the risk ranking with controls in place (Section 7.2.3) was assessed as ***unlikely***.

Consequence	Likelihood	Ranking
Minor	Unlikely	Low

7.2.3 Environmental performance

Hazard		**Interaction with fauna**		
Performance outcome		No death or injury to EPBC Act listed marine fauna due to activities in the Operational Area		
ID	Management Control	Performance standards	Measurement criteria	Responsibility
007	Vessels will comply with EPBC Regulations 8.05 and 8.06	Support Vessel Masters will comply with relevant parts of EPBC Regulation (2000): Reg. 8.05 & 8.06 respectively, where safe to do so: Within the caution zone for a cetacean (including a calf) (within 300 m of a cetacean), the Vessel Master must operate the vessel at a constant speed of less than 6 knots and minimise noise; and If a calf appears within an area that means the vessel is then within the caution zone of the calf, the Vessel Master must immediately stop the vessel and turn off the vessel's engines or disengage the gears or withdraw the vessel from the caution zone at a constant speed of less than 6 knots. The above requirements will also apply to whale sharks if they are sighted within 300m of the vessel.	Vessel Masters provided and required to operate in accordance with the Montara Marine Facility Operating Manual (MV-90-PR-H-00001) – Sign-off sheet for completed by Vessel Master. Incident reports record non-compliances with EPBC Regulations 2000 - Part 8 Division 8.1 (interacting with cetaceans) Induction includes whale shark avoidance requirements	Vessel Master
036	Potential for collision with marine fauna reduced by vessels operating at speeds aligned with Montara Marine Facility Manual (MV-90-PR-H-00001)	Vessels operating within the PSZ must not exceed a speed of five (5) knots.	Vessel Masters provided and required to operate in accordance with the Montara Marine Facility Operating Manual – Sign-off sheet for completed by Vessel Master.	Vessel Master
037	Competency and Training Management System (JS-60-PR-Q-00015) provides a process for ensuring that Contractors and Services Providers have the	Online induction includes information on speed limits in the PSZ and requirements on interacting with marine fauna	Induction Records (Vessel Masters)	Marine Superintendent

	appropriate level of HSE capability			
038	Marine fauna collisions reported to National Ship Strike Database	Any vessel collision with a whale in the Operational Area is submitted to the National Ship Strike Database at: https://data.marinemammals.gov.au/report/shipstrike Death or injury to EPBC Act listed marine fauna (including cetaceans or whale sharks) from vessel collision are recorded/reported to NOPSEMA and DAWE in line with regulations	Vessel collision incident report Database entry number	HSE Manager

7.2.4 ALARP assessment

Based on the impact and risk assessment process completed, Jadestone considers the control measures described above are appropriate to manage the risk risk of fauna strike to ALARP. The residual risk ranking for this potential impact (minor) is considered Low. Additional controls considered but rejected are detailed below. No further controls are required and therefore ALARP has been demonstrated.

Rejected control	Hierarchy	Practicable	Cost Effective	Justification
Removal or reduce frequency of vessels and helicopter use	Eliminate	No	No	Vessels and helicopters are required during VBA and there are no practicable alternatives. The potential for interaction between vessels and fauna cannot be eliminated, however the risk is low given the location, low volume of vessel and helicopter activity and low speeds and helicopter noise acts as a deterrent.
Reduce or remove vessel and helicopter use during key sensitive periods	Isolation	No	No	Reducing or removing vessel and helicopter activities during known migration periods of marine fauna is not a viable option as these activities are necessary for the safe and efficient monitoring of the wellheads.
Installation of an active well monitoring system instead of the passive	Substitution	Yes	No	This system would require a longer period on location for installation and regular vessel visits to site for approximately 2 days every two weeks. This would therefore increase the potential for interaction with marine fauna from the activity significantly over the course of each year. The passive system is therefore considered to be more acceptable.
Use of marine fauna observers on all vessels to identify fauna close to vessels	Administrative	No	No	Vessel Masters will complete an environmental induction which includes the applicable requirements. The introduction of a specialist marine fauna observer is unlikely to increase detection and the additional cost is considered grossly disproportionate given the low vessel speeds reduce the potential for impacts on marine fauna.

7.2.5 Acceptability assessment

The potential impacts of helicopters and vessels on marine fauna during the operation are considered 'Broadly Acceptable' in accordance with the Environment Regulations, based on the acceptability criteria outlined below. The control measures proposed are consistent with relevant legislation, standards and codes.

Policy & management system compliance	Jadestone's HSE Policy objectives are met. Section 8 demonstrates that Jadestone's HSE Management System is capable of meeting environmental management requirements for this activity.
Stakeholder & reputation	Stakeholder consultation has been undertaken (Section 4), and no stakeholder concerns have been raised with regards to impacts from vessel/ helicopter operations on sensitive receptors.

Environmental context & ESD	The Operational Area overlaps a small area at the northern end of the Whale shark BIA. Risks to megafauna is considered low and acceptable as vessels will travel at low speeds within the Operational Area; minimal vessel activity in the area, and risk of mortality from a low-speed vessel strike is low. In this way, aspects of the EPBC Regulations 2000, Division 8.1 – Interacting with Cetaceans – are addressed. The potential impact is considered acceptable after consideration of: • Potential impact pathways: Section 7.2.2 describes the consequences and likelihood of vessel strike; • Preservation of critical habitats: location remote from Protected Areas and aggregations of most vulnerable cetaceans, dugongs and reptiles with proposed management minimizing residual risk to individuals; • Assessment of key threats as described in species and Area Management /Recovery plans: see 'Conservation and Management Advice' below; • Consideration of North-West Bioregional Plan: The NW Bioregional Plan ranks vessel strike to cetaceans, dugongs, turtles within BIA as a 'high risk of significant impact'. No specific actions were raised; hence the management controls are considered sufficient to maintain a residual consequence ranking of negligible; and • Principles of ecologically sustainable development ESD: as worst-case consequences will not impact population levels of protected species, no impacts on biodiversity or ecosystem integrity are predicted.
Conservation and management advice	Recovery Plan for Marine Turtles in Australia, (DoEE, 2017). The Recovery Plan for marine turtles in Australia (DoEE, 2017) identifies the following risk - Vessel Disturbance. It requires that risk of vessel strikes is evaluated and, if required, appropriate mitigation measures are implemented. This EP and the proposed controls are consistent with this advice. Conservation Management Plan for the Blue Whale, 2015-2025. The Management Plan identifies the following risk – 'Vessel Disturbance". It requires that risk of vessel strikes is evaluated and, if required, appropriate mitigation measures are implemented. This EP and the proposed controls are consistent with this advice. Wildlife Conservation Plan for Seabirds (CoA 2020) The Wildlife Conservation Plan for Seabirds (CoA 2020) states that an action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will: • substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for migratory species; or • seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species. Jadestone has had regard to the representative values of the protected areas within the EMBAs, and the respective management plans and other published information. Interactions with fauna may have a minor impact on any of the social and ecological objectives and values, of AMPs, or state MPs. However, with controls in place to minimise the likelihood (to protect protected fauna), this is considered consistent with the objectives of the conservation advice or management plans (Appendix B) and considered Acceptable.

7.3 Unplanned Release of Solids

7.3.1 Description of hazard

Solid waste release	An unplanned release of solids to the environment has the potential to occur from: • Waste overboard from vessel operations (e.g. overfull and/or uncovered bins); • Lifting resulting in dropped objects; and

7.3.2 Impacts and risks

Solids overboard have the potential to pollute marine habitats and injure or kill fauna through entanglement, ingestion or exposure (Ryan et al. 1988). The effects are dependent on the size and material.

Sensitive Receptor	Impact description
Marine fauna	Release of hazardous solid wastes may result in the pollution of the immediate receiving environment, leading to detrimental health impacts to marine fauna through ingestion or absorption by individual fish, cetaceans, marine reptiles and seabirds. Foraging behaviour in turtles has resulted in turtles mistaking plastic for jellyfish (Mrosovsky et al. 2009). Marine fauna (including seabirds) encountered within the Operational Area are expected to be limited to small numbers of transient individuals as there are no known critical habitats within the Operational Area for EPBC listed species. The Operational Area overlaps with the northern section of the whale shark foraging however, only low numbers are likely to be present. The accidental release of waste may result in injury or even death to individuals but is not expected to result in a threat to population viability; hence the consequence to marine fauna was assessed as ***Minor*** given the likely objects dropped overboard, the transient nature of marine fauna at this location and lack of foraging habitat within the Operational Area.
Benthic habitats	Benthic habitats have the potential to be impacted by accidental spills of solids resulting in possible damage to or loss of soft sediment communities within the area affected. The potential impact may be short term to long term depending on the waste type, degradation rate, and volume. The extent of physical seabed damage will be limited to the size of an inert dropped object and given the size of standard materials lifted overboard, impacts are expected to be very localised. There are no sensitive or unique marine habitats in the Operational Area and the diversity and coverage of epibenthos is low (ERM 2011), benthic communities are expected to rapidly recolonise any damaged area (Currie and Isaac, 2004). Given the relatively small footprint of any dropped object, the widespread distribution and abundance of benthic communities within and beyond the Operational Area, the consequence to benthic communities would be a highly localised, negligible, and reversible change to a very small proportion of the overall benthos. The consequence of an unplanned release of solid waste on benthic habitats was assessed as ***Minor***.
Other users	Buoyant solid waste accidentally released to the marine environment may create a navigational hazard to other marine users. The consequence of an unplanned solid waste on other marine users was assessed as ***Negligible*** given the likely objects that could be dropped overboard.
Likelihood assessment	
Likely	The control measures and checks will ensure that the risks of dropped objects, lost equipment or release of solid waste to the environment has been minimised. The likelihood of transient marine fauna occurring in the Operational Area is limited. As such, the likelihood of releasing solids to the environment resulting in a negligible consequence is considered ***likely***.

Consequence	Likelihood	Ranking
Minor	Likely	Medium

7.3.3 Environmental performance

Hazard		**Unplanned discharge of solid waste**		
Performance outcome		Zero unplanned discharge of solid wastes into the marine environment		
ID	Management Control	Performance standards	Measurement criteria	Responsibility
039	Waste generated during VBA will be managed in accordance with MARPOL 73/78 Annex V Regulation 9 and the vessel's Waste Management Plan as required	Solid waste materials are stored in fit for purpose storage containers and/or lifting skips, labelled and equipped with lids / covers to prevent loss of material during storage and handling.	Garbage Record Book shall be maintained on all facilities in accordance with MARPOL 73/78 Annex V Regulation 9	Vessel Masters
040		Hazardous solid wastes will be managed in accordance with Marine Orders – Part 94 (Marine Pollution Prevention – Packaged Harmful Substances), Navigation Act 2012 and Protection of the Sea (Prevention of Pollution from Ships) Act 1983 (Part III) requirements, and Environmental Protection Regs (Controlled Waste)	A waste register will be maintained to show that hazardous wastes are being collected and returned onshore for disposal	
041	Vessel lifting procedures implemented for ROV launch or monitoring equipment installation	All personnel involved with lifting equipment operations and maintenance receive adequate training and are competent appropriate to their level of responsibility	Training records and competency matrix	

7.3.4 ALARP assessment

On the basis of the impact and risk assessment process completed, Jadestone considers the control measures described above are appropriate to manage the risk of unplanned discharges of solid waste to ALARP. The residual risk ranking for this potential impact is considered **Medium** based on a likelihood of **Likely** and consequence of **Minor**. Additional controls considered but rejected are detailed below. No further controls are required and therefore ALARP has been demonstrated.

Rejected control	Hierarchy	Practicable	Cost Effective	Justification
No use of hazardous materials or production of wastes	Eliminate	No	No	Solid wastes produced onboard are disposed of onshore and are not discharged to the marine environment, therefore there is no planned impact to the marine environment. Complete elimination of hazardous solids is not feasible; therefore, the risk from unplanned releases remains, but consequences are negligible.
Substitute any hazardous chemical use with non-hazardous chemical use	Substitute	No	No	Where appropriate, selection of chemicals or materials to achieve low or no environmental effect is made. Some hazardous waste is unavoidable from the use of batteries, lights etc. and therefore there are limited opportunities for substitution.
Installation of an active well monitoring system instead of the passive	Substitution	Yes	No	This system would require a longer period on location for installation and regular vessel visits to site for approximately 2 days every two weeks. This would therefore increase the possibility of an unplanned release significantly over the course of each year due to the increased frequency of vessels and activities in the field. The passive system is therefore considered to be more acceptable.
None identified	Engineering	N/a	N/a	All waste bins have lids and wastes are segregated at the time of disposal. No other engineering controls were considered.
None identified	Administrative	N/a	N/a	None identified. Maintenance management system implemented, compliance with relevant and appropriate MARPOL and legislative requirements, and certified equipment.

7.3.5 Acceptability assessment

The potential impacts of unplanned discharges of solid wastes during the activity are considered 'Broadly Acceptable' in accordance with the Environment Regulations, based on the acceptability criteria outlined below. The control measures proposed are consistent with relevant legislation, standards and codes.

Policy & management system compliance	Jadestone's HSE Policy objectives are met. Section 8 demonstrates that Jadestone's HSE Management System is capable of meeting environmental management requirements for this activity.
Stakeholder & reputation	Stakeholder consultation has been undertaken (Section 4), and no stakeholder concerns have been raised with regards to impacts from solid waste generation or unplanned discharges on sensitive receptors.

Laws, standards and industry best practice	Maintenance management system implemented, compliance with relevant and appropriate MARPOL and legislative requirements, certified equipment. No further controls were identified. The APPEA Code of Environmental Practice (CoEP) (2008) objectives are met with regards to all solid wastes, chemicals and other wastes are disposed of or recycled at appropriate facilities in accordance with legislative requirements and agreed procedures.
Environmental context & ESD	Benthic habitats have the potential to be impacted with solid wastes resulting in potential loss of soft sediment communities and harm to marine fauna. If impacted, benthic habitats and associated biota are well represented in the region and there are no known areas of sensitive habitat within the area that may be affected by accidental release of solid waste. Marine fauna can become entangled in waste plastics, which can also be ingested when mistaken as prey potentially leading to injury or death. Generally, no toxic effects are expected from non-hazardous solids. The potential scale of environmental harm from accidentally discharged solid waste is small in comparison to the vast size of soft substrata habitats spanning the region and the transient nature of marine fauna that may be present in the Operational Area. The potential impact is considered acceptable after consideration of: • Potential impact pathways: consequences and likelihood of pathways are assessed in section 7.3.1 and 7.3.2; • Preservation of critical habitats: the drilling location is remote from Protected Areas and aggregations of protected and migratory species that could be impacted above 'negligible' from solids discharges; • Assessment of key threats as described in species and Area Management /Recovery plans: see 'Conservation and management advice' below; • Consideration of North-West Bioregional Plan: The NW Bioregional Plan considers marine debris (such as entanglement and ingestion) a threat to turtles, dolphin, dugong, and various KEF. The proposed management controls are aligned with minimizing this risk; and • Principles of ecologically sustainable development ESD; with the proposed management controls, any worst-case impacts would not affect population levels, hence no impacts to biodiversity or ecosystem integrity are predicted.
Conservation and management advice	Marine debris is identified as a potential threat to a number of marine fauna species in relevant Recovery Plans and Conservation Advice: • Conservation management plan for the blue whale: A recovery plan under the EPBC Act 1999 2015-2025; • Conservation advice *Balaenoptera borealis* (sei whale); • Conservation advice *Balaenoptera physalus* (fin whale); • Recovery Plan for Marine Turtles in Australia; and • Recovery Plan for the white shark (*Carcharodon carcharias*). The controls implemented demonstrate that the activity will be conducted in a manner that reduces marine debris and therefore the activity will be conducted in a manner that is acceptable under the relevant Recovery Plans and Approved Conservation Advice to prevent accidental release of non-hydrocarbon solids (marine debris). The limited quantities associated with this event indicate that even in a worst-case release of solid waste, fatalities would be limited to individuals and is not expected to result in a decrease of the local population size for any of the species identified.

7.4 Unplanned Release of (Non-Hydrocarbon) Liquids

7.4.1 Description of hazard

Unplanned discharge of liquids	Non-hazardous and hazardous liquids and chemicals are routinely transported to and from, stored and used aboard vessels, therefore, there is potential for these to be accidentally spilled to the marine environment. The maximum volume of non-hydrocarbons (such as solvents and detergents) released from the deck is likely to be small and realistically limited to the volume of individual containers (e.g. IBCs/ drums etc i.e. ~1 m^3). Chemicals, for example solvents and detergents, are typically stored in small containers of 5 – 25 L capacity and used in areas that are bunded. Leaks and spills of non-hydrocarbon liquids are typically contained within the immediate storage/ use area on board. Hazardous industrial liquid wastes may include radioactive materials, paint and thinners, waste oil, proprietary cleaning agents and chemicals for chemical injection. Dropped objects are discussed under Section 7.3. Accidental liquid releases may occur during any season at any time. Some chemicals may persist in the marine environment.

7.4.2 Impacts and risks

Should non-hydrocarbon liquids be spilled to the marine environment, the potential impact pathways to marine fauna and benthic communities are:

- Ingestion or physical contact with chemical compounds within the water column or sediment; and
- Accumulation and biomagnification of chemicals within the food chain.

The potential exposure to non-hydrocarbon liquids would be dependent on the type, volume of discharge, concentration, toxicity, persistence and bioaccumulation potential. Also, exposure may vary depending on the dilution and dispersion potential of the chemical, or whether the chemical floats/sinks to the sea floor. Hazardous liquids have the potential to impact local water quality which in turn, may impact on the health and reproductive development of marine fauna (e.g. pelagic fish, cetaceans, marine reptiles and seabirds) and have a flow-on effect through the whole ecosystem including socio-economic receptors.

For the purposes of this impact assessment, evaluation of the worst-case credible release scenario, that of 1 m^3 of a chemical accidentally discharged to the marine environment, has been evaluated.

Sensitive Receptor	Impact description
Water Quality	If non-hydrocarbon liquids are accidentally discharged, it is expected that the plume will largely disperse at sea surface due to the prevailing currents away from the release point and be diluted rapidly in the receiving waters. Potential impacts will include a temporary and highly localised increase in turbidity and decline in water quality with recovery likely within 24-hours. The potential for toxicity to marine fauna is limited due to the temporary exposure and low toxicity resulting from the rapid dilution in the marine environment. The consequence of an unplanned release of non-hydrocarbon liquids on water quality was assessed as ***Negligible*** given the likely volumes and types of liquids and the rapid dilution and dispersion that would occur, and full recovery of water quality predicted within days.
Benthic Habitat	Reduction in water quality is expected to occur for a very short duration; as such any affects to benthic habitats are expected to be localised and temporary, given the water depth and the high dispersion of any potential marine pollutant in an open-ocean environment. There is no emergent or inter-tidal habitat that could be impacted by a surface spill and the benthic habitat is predominately soft sediments. Any spilled material is unlikely to reach demersal species or benthic habitats on the seabed at impact concentrations. Sub-lethal or lethal effects from unplanned discharges at the seabed on marine fauna, is considered ***unlikely*** given the expected low concentrations and short exposure times. The consequence

Sensitive Receptor	Impact description
	of an unplanned release of non-hydrocarbon liquids was assessed as ***Negligible –*** based on the likely volumes and types of liquids, the low sensitivity of the benthic habitat and the rapid dilution and dispersion that would occur.
Marine Fauna	Liquid discharges may cause negligible short-term water quality degradation (see above) and as a result a possible alteration to marine fauna behaviour. The changes to water quality that may result could potentially lead to short-term impacts on marine fauna (e.g. pelagic/benthic fish, epifauna, cetaceans, marine reptiles and seabirds), with chronic impacts not expected owing to the short exposure times likely. The susceptibility of marine receptors will be dependent on the nature of the liquid released, toxicity and other chemical properties such as biodegradation and bioaccumulation potential. The Operational Area overlaps the Whale shark BIA but aggregations such as those found in Ningaloo are unlikely. Potential impacts to water quality are likely to be limited to the immediate vicinity (tens to hundred metres) of the release point and are not expected to affect overall population viability of these protected species. Contaminated fish stocks and filter feeders such as oysters and mussels can pass on harmful chemicals to humans, if contaminated organisms are consumed. Potential impacts are varied depending on characteristics and volumes of the spilt chemical and the sea state, and, are likely to be limited to the immediate vicinity and unlikely to affect overall population viability or have economic impacts. The consequence of an unplanned release of non-hydrocarbon liquids on marine fauna was assessed as ***Negligible*** given the likely volumes and types of liquids and the rapid dilution and dispersion that would occur in the Operational Area.
Likelihood assessment	
Rare	The control measures and checks proposed will ensure that the risks of unplanned releases of liquids to the marine environment are minimised. The likelihood of transient marine fauna occurring in the Operational Area is limited. Given the controls in place, the likelihood of releasing non-hydrocarbon liquids to the environment resulting in a negligible consequence is considered ***unlikely*** based on the presence of bunding around non-hydrocarbon liquid containers, and drainage systems and volumes /types of liquids aboard but the fact that accidental losses to the environment have occurred within the industry.

Consequence	Likelihood	Ranking
Negligible	Unlikely	Low

7.4.3 Environmental performance

Hazard		**Unplanned discharge of solid waste**		
Performance outcome		Zero unplanned discharges into the marine environment		
ID	Management Control	Performance standards	Measurement criteria	Responsibility
042	Vessels are compliant with Marine Order 94 to prevent any packaged harmful substances from entering the marine environment	Safety data sheet (SDS) available for all chemicals to aid in the process of hazard identification and chemical storage and disposal management	SDS available on vessels	HSE Manager Marine superintendent Vessel master
043		Chemicals managed in accordance with SDS in relation to safe handling and storage, spill-response and emergency procedures, and disposal considerations	SDS available on vessels	
044	Vessels are compliant with Marine Order 93 to prevent any contaminating liquids and chemicals from entering the marine environment	Vessel chemical management is compliant with Marine Order 93: • Having a valid International Pollution Prevention Certificate; • Reporting marine incidents to AMSA – An incident involving a discharge from a vessel of a mixture containing a liquid substance, carried as cargo or as part of cargo in bulk, must be reported to AMSA via AMSA Form 196 (Harmful Substances Report form) within 24-hours; • Enacting a compliant Shipboard Marine Pollution Emergency Plan; • Using a compliant Cargo Record Book; and • Washing vessel tanks in accordance with the Pollution Prevention Act.	Valid International Pollution Prevention Certificate Valid SOPEP/SMPEP Cargo Record Book	
045	Spill kits on the vessel are present in areas of high spill risk	Spill kits are: • Located near high risk spill areas. • Intact, clearly labelled and contain adequate quantities of absorbent materials with waste managed as per vessel Waste Management Plan	Pre-start inspection	

7.4.4 ALARP assessment

Jadestone considers the control measures described above are appropriate to manage the risk of unplanned discharges of non-hydrocarbon liquids to ALARP. The residual risk ranking for this potential impact is considered **Low** based on a likelihood of **Rare** and consequence of ***Negligible***. Additional controls considered but rejected are detailed below. No further controls are required and therefore ALARP has been demonstrated.

Rejected control	Hierarchy	Practicable	Cost effective	Justification
No use of hazardous materials or production of wastes	Eliminate	No	No	Liquid wastes produced onboard are disposed of onshore and are not discharged to the marine environment, therefore there is no planned impact to the marine environment. Complete elimination of hazardous materials and waste is not feasible; therefore, the residual risk of unplanned releases remains but is low.
Substitute any hazardous chemicals use with non-hazardous chemicals	Substitute	No	No	Where appropriate selection of chemicals or materials to achieve low or no environmental effect is made. Some hazardous liquids are unavoidable with limited opportunities for substitution.
Installation of an active well monitoring system instead of the passive	Substitution	Yes	No	This system would require a longer period on location for installation and regular vessel visits to site for approximately 2 days every two weeks. This would therefore increase the possibility of an unplanned release significantly over the course of each year due to the increased frequency of vessels and activities in the field. The passive system is therefore considered to be more acceptable.
None identified	Engineering Isolation	N/a	N/a	All waste bins have lids and wastes are segregated at the time of disposal. No other engineering controls were considered. Safeguards will be implemented as required, by the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* and MARPOL Annexures I, II and III. Such safeguards include designated storage and handling areas, correct stowage, accurate labelling and marking, SDS information, spill clean-up equipment and containment (e.g. bunds). No other potential controls were identified. The Activity is remote from sensitive receptors and coastlines.
None identified	Administrative	N/a	N/a	Maintenance management system implemented, compliance with relevant and appropriate MARPOL and legislative requirements, certified equipment. No further controls were identified.

7.4.5 Acceptability assessment

The potential impacts of unplanned discharges of non-hydrocarbon liquids during the activity are considered 'Acceptable' in accordance with the Environment Regulations, based on the acceptability criteria outlined below. The control measures proposed are consistent with relevant legislation, standards and codes.	
Policy & management system compliance	Jadestone's HSE Policy objectives are met. Section 8 demonstrates that Jadestone's HSE Management System is capable of meeting environmental management requirements for this activity.
Stakeholder & reputation	Stakeholder consultation has been undertaken (Section4), and no stakeholder concerns have been raised regarding impacts from unplanned discharges of non-hydrocarbon liquids.
Laws, standards and industry best practice	The APPEA Code of Environmental Practice (CoEP) (2008) principles are met with regards to complying with relevant laws and regulations, and meeting industry's objective to maintain a social licence to operate. MARPOL requirements are internationally recognised in the shipping industry to manage the potential for pollution.
Environmental context & ESD	While unplanned liquid discharges could occur from the activity, the risk assessment process indicates credible discharges would have a temporary and localised impact on marine waters and will not result in significant impacts to marine fauna. The residual risk is considered acceptable after consideration of: • Potential impact pathways: Section 7.4.1 and 7.4.2 assesses the likelihood and consequences to water quality and marine habitats, flora and fauna from liquid spills; • Preservation of critical habitats: the location is remote from Protected Areas and aggregations of sensitive receptors; • Assessment of key threats as described in species and Area Management /Recovery plans: see 'Conservation and management Advice' below; • Consideration of North-West Bioregional Plan; the Plan regards chemical pollution/ contamination from oil and gas activities and vessels as a pressure on biodiversity, ecosystem function or integrity, social amenity or human health. This EP is aligned with the objectives of the NW Bioregional Plan by minimizing the risks of spills; and • Principles of ecologically sustainable development: the likelihood and consequence of the worst-case credible liquids spill is not predicted to impact above individual marine fauna or localized habitats; hence biodiversity and ecosystem integrity are not at risk.
Conservation and management advice	Minimising chemical discharge is an action identified by the Recovery Plan for Marine Turtles in Australia 2017-2027. This requires that best practice industrial management is implemented to minimise impacts to marine turtle health and habitats. A marine chemical spill is unlikely to result in population effects due to the controls in place for secure storage and on-board clean-up of spills, transient nature of marine fauna and the remote open ocean environment. There are no relevant management requirements in the recovery plan to implement for this hazard.

7.5 Unplanned Release of Hydrocarbons – Worst Case Scenarios

Diesel

The worst-case scenario for this activity is considered to be a vessel collision resulting in a release of up to 400m^3 of diesel. This EP previously described a loss of well control as the worst-case scenario, but further information on the barriers has been reviewed and this scenario has now been discounted.

Montara Crude

A minor pinhole leak of crude oil has been included. However, the remediation activities for this type of spill are not considered an emergency event and are therefore not considered further in the OPEP.

If a leak is detected during annual ROV monitoring or by the remote monitoring system, time will be required to investigate the leak and plan for the plugging of the well. The most likely scenario is that small bubbles would be observed as the first indication that the barrier envelope is compromised. In such an event, an urgent planned well intervention campaign would be undertaken to enter the well and restore the barrier envelope. Depending on well condition and field development intentions, this may or may not result in well abandonment. A planned response process which includes preparation and submission of a WOMP, Vessel Safety Case Revision, procurement of equipment and services would take 6-12 months to respond to. Of this time, it is assumed that critical path time is due to vessel availability and mobilisation timing. If this factor is omitted, time to respond to the well could be as low as 15 weeks. A time breakdown is provided in Appendix G and is based on a prioritised schedule as usually experienced by the Australian Industry. Within the worst case 6–12-month time period, the discharged volumes would be significantly below those that represent LOWC volumes described below.

Table 7-2: Worst case credible spills to the marine environment due to a loss of containment event

Scenario	Maximum Worst Case Credible Spill	Release Durations
Release of diesel from vessel due to vessel collision	<400 m^3	6 hours
Pinhole leak of Montara crude oil	<2m^3	6-12 months

The largest vessel that may be contracted for use in the Montara field is likely to be the Skandi Hercules. The largest single tank on this vessel is ~325m3. However, given the potential for other vessels to be utilised in the field a conservative approach was taken and 400m^3 was utilised for the spill modelling.

Given the size of the pinhole leak, this was not modelled for the EP, and the potential impacts from such a scenario are considered to be well within the diesel spill EMBA which considers floating, entrained and dissolved hydrocarbons and impacts are described further in Section 7.6.6. The WellSentinel™ is designed to trigger after accumulating 100ml of oil. Jadestone have assumed a worst case scenario from the pinhole leak of 5 litres per day over a 12month period, which is significantly more than the volume required to trigger the WellSentinel system.

7.5.1 Tahbilk-1 Well Integrity review

In April 2025, a review of the well integrity was undertaken to determine if a loss of well control was credible. Hydrocarbons (gas) were discovered in the Gibson formation between 2273 mRT and 2307 mRT and in the deeper Montara formation between 2624 mRT and 2690 mRT. The well was left suspended with deep set and shallow set cement plug plus inhibited seawater in the 9 5/8" casing. A cement column of at least 200m in length exists and it is considered highly unlikely that a leak from the reservoir could occur up the annulus. Further, given the lack of oxygen in a downhole environment and the fact that the casing is filled with inhibited seawater between the cement plugs, corrosion rates could reasonably be expected to be significantly reduced from those measured in soil (0.2 mm / year**).**

Given the current barrier status of the well, in particular the likely viability of the deep set barrier envelope, a hydrocarbon release from the reservoir is extremely unlikely with a significant release (i.e. blowout) an even more remote possibility. Additionally, the Well Sentinel, which is designed to activate after accumulating 100ml of hydrocarbon, has now been on the well for multiple months and has not activated. This indicates that the well is not leaking.

Therefore, a loss of well control is now a discounted scenario for this EP.

7.5.2 Sea Eagle-1 Integrity Review

In April 2025, a review of the well integrity was undertaken to determine if a loss of well control was credible. Hydrocarbons (gas) were discovered in the Plover formation between 2944 mRT and 2995 mRT. The well was left suspended with cement in the shoe track, inhibited seawater in the 9 5/8" casing and a shallow set cement plug. The successful pressure test indicates that whatever the length of cement inside the shoetrack and casing, it is capable of containing 4000 psi which is in excess of the virgin reservoir pressure. Taking the most conservative estimate of top of cement from calculations results in an annular cement length of 357 m above the top reservoir which is sufficient for 2 annular barriers.

The cement report indicates the casing was adequately centralised. No losses were noted during the cement job. Given these facts the annular cement meets the requirement for a dual barrier suitable for permanent abandonment it is considered unlikely that a leak from the reservoir could occur up the annulus.

On the 4th of August 2024 while undertaking preparatory work on the wellhead in advance of fitting the Well Sentinel, an ROV noted an intermittent stream of clear gas bubbles were noted emitting from behind the 9 5/8" casing hanger seal assembly indicating the source to be the 13 3/8" – 9 5/8" annulus. Whilst not confirmed, the original manufacturer has suggested a possibility of seal degradation which may allow the observed leak. During a subsequent ROV inspection of well on August 10th no bubbles were noted, and the Well Sentinel system was intact. The Well Sentinel has now been on the well for multiple months and has not activated. This indicates that even if the bubbles are continuing the source is not the reservoir.

Further, given the lack of oxygen in a downhole environment and the fact that the casing is filled with inhibited seawater between the cement plugs, corrosion rates could reasonably be expected to be significantly reduced from those measured in soil (0.2 mm / year)**.**

Given the current barrier status of the well, a hydrocarbon release from the reservoir is unlikely (virtually non-credible). Additionally, the Well Sentinel, which is designed to activate after accumulating 100ml of hydrocarbon, has now been on the well for multiple months and has not activated. This indicates that the well is not leaking.

Therefore, a loss of well control is now a discounted scenario for this EP.

7.5.3 Discounted scenarios

Refuelling of helicopters on the helideck of vessels was discounted as a credible spill scenario to the marine environment due to the high volatility of aviation fuel.

A dragged anchor or misplaced anchor scenarios are discounted as the vessel will not be using anchors.

Refuelling of vessels will not occur within the operational area, therefore minor spills during bunkering operations were discounted.

The Swift manifold and 14" production flowline are located approximately 50 m from the Sea Eagle-1 wellhead. There is no known infrastructure within the proximity of the Tahbilk-1 wellhead. Damage to the Swift subsea manifold and 14" production flowline resulting in a release of hydrocarbons are further described in the NOPSEMA accepted Montara Operations EP (MV-90-PLN-I-00001). Given the size of vessels and the equipment being used for these VBA, there is not considered a credible risk of dropped objects impacting on the subsea infrastructure resulting in a loss of containment. Therefore, the potential scenario is not discussed further.

7.5.4 Exposure pathways and impact thresholds

To assess environmental effects from an unplanned hydrocarbon release, four separate hydrocarbon components that pose differing environmental risks were evaluated (refer Table 7-3).

- Surface hydrocarbons – hydrocarbons that are 'on' the water surface;

- Entrained hydrocarbons – hydrocarbon that is entrained 'in' the water;
- Dissolved hydrocarbons – the dissolved component of hydrocarbon in' the water; and
- Shoreline accumulation – hydrocarbons that accumulate along shorelines.

Threshold concentrations for each of the three hydrocarbon phases were selected and applied to the modelling outputs to define the EMBA for each phase. A receptor was considered 'affected' by one of the phases as soon as the threshold for the phase at that location was exceeded (i.e. instantaneous impact approach).

The rationale for the selection of the thresholds was determined by contemporary scientific knowledge. Appendix F provides a summary of the contact thresholds applied, and represents a consistent, logical and robust approach in the selection of oil exposure values.

The modelling does not take into consideration any of the spill prevention, mitigation and response capabilities may be implemented to reduce volumes and/or prevent hydrocarbons from reaching sensitive areas.

Table 7-3: Hydrocarbon Exposure Thresholds

	Low (Socio-Cultural EMBA)	Moderate (Ecological EMBA)	High
Floating oil	1 g/m^2	10 g/m^2	50 g/m^2
Shoreline oil accumulation	10 g/m^2	100 g/m^2	1000 g/m^2
Entrained oil	10 ppb	100 ppb	1000 ppb
Dissolved hydrocarbons	10 ppb	50 ppb	400 ppb

7.6 Worst Case Hydrocarbon Spill

7.6.1 Description of hazard

Diesel spill	Release of diesel may occur from vessel collision within the Operational Area. The worst-case diesel spill scenario is due to collision of a vessel with a third-party vessel resulting in damage to a fuel oil tank and diesel released to the ocean. The maximum worst-case credible spill volume of diesel has been calculated as 400 m^3 based on the largest fuel oil tank on the proposed vessels that may be used for maintenance activities of the WellSentinel^{TM} system, though it is considered more likely that smaller vessels would be used.

7.6.2 Spill volume

The volume of diesel that could be released to the marine environment from vessel collision and subsequent rupture of fuel tank is largely dependent upon fuel tank position on the vessel, the degree and location of tank damage and tank volume. Reviewing the potential vessels that may be used and the largest fuel tank size provides a spill volume of <400 m^3 for typical vessels. This volume was modelled (RPS, 2025) to determine the ecological and socio economic EMBAs.

Table 7-4: Credible diesel releases to the marine environment

Scenario	Maximum Credible Spill	Release duration	Credibility justification
Release of diesel due to vessel collision	Based on AMSA (2015) 'other vessel collision' – volume of largest fuel tank = 400 m^3 (based on a typical operations and support vessels with a ruptured wing tank);	6 hours	The largest vessel that may be contracted for use in the Montara field is likely to be the Skandi Hercules. The largest single tank on this vessel is ~325m^3. However, given the potential for other vessels to be utilised in the field a conservative approach was taken and 400m^3 was utilised for the spill modelling.

7.6.3 Diesel characteristics

Marine diesel is typically a mixture of volatile and persistent hydrocarbons with a low percentage of volatiles (6%) and with the greater proportion having moderate to very low volatility (89%). The aromatic content is approximately 3%. Viscosity is 4.0cP (at 25°C) and density of approximately 829.1kg/m^3 at 25°C.

In the marine environment, diesel will behave as follows:

- Diesel will spread rapidly in the direction of the prevailing wind and waves;
- Evaporation is the dominant process contributing to the fate of spilled diesel from the sea surface and will account for >50% reduction of net hydrocarbon balance;
- Diesel will entrain under the water surface particularly when wind speed and resultant wave action increase;
- The evaporation rate of diesel will increase in warmer air and sea temperatures such as those at the Drilling Activities Operational Area; and
- Diesel residues usually consist of heavy compounds that may persist longer and will tend to disperse as oil droplets into the upper layers of the water column.

7.6.4 Modelling Approach

A diesel spill scenario of 400 m^3 was modelled by RPS for a spill within the vicinity of the VBA Operational Area (i.e. where most vessel traffic will occur) to determine the dispersion behaviour of the released hydrocarbon within the marine environment. The modelling considered all seasons of the year and has been reviewed to ascertain the spatial extent of floating and entrained oil above impact thresholds.

The location selected is equidistant from the nearest sensitive receptors (Ashmore Reef and Cartier Island) for both the Sea Eagle and Tahbilk locations. Therefore only one location was utilised as a representative location for the modelling.

Provided below are details specific to the diesel spill modelling scenario:

- 10 years (2010 to 2019 (inclusive)) of wind and current data was generated. The three-dimensional current data included the combined influence of ocean and tidal currents;
- wind data, current data and hydrocarbon properties were included into the three-dimensional oil spill model; SIMAP, to model the movement, spreading, entrainment, weathering and potential shoreline accumulation over time;

- 100 simulations for each season per scenario (i.e. 300 simulations total) with each simulation having the same spill information (location, volume, duration and oil properties) but different start times to ensure a range of wind and current conditions were run and assessed;
- results from the 100 spill simulations were combined for each season to determine the potential risk to the surrounding waters, shorelines and sensitive receptors based upon the NOPSEMA thresholds (Table 7-3) for seasonal assessments.

Figure 7-1 depicts the annualised environment that may be affected due to a diesel spill of 400 m^3 for socio-cultural and ecological thresholds. These results were calculated from all 300 spill simulations across all seasons. The socio-cultural and ecological thresholds used for modelling are provided in Table 7-3.

7.6.5 Diesel modelling results

7.6.5.1 Surface oil results

Results of the stochastic modelling indicated that surface sheens of surface oil (>1 g/m^2) may pass over the following sensitive areas, with a probability of <2% of reaching these locations:

- Vulcan Shoal after 2 d 10 hrs;
- Goeree Shoal after 1 d 9 hr; and
- Eugene McDermott Shoal after 4 d 2 hrs.

Results of the stochastic modelling indicated that surface sheens of surface oil (>1 g/m^2) may contact the following KEF with a 2% probability:

- Carbonate Bank and Terrace System of the Sahul Shelf after 3 d 16 hrs.

Surface oil at concentrations of 10 g/m^2 were not predicted to reach any receptors. Floating oil concentrations ≥1 g/m^2 were observed to up to 64.85 km (transitional) away. As the concentration thresholds increase to 10 g/m^2 and 50 g/m^2, these distances reduced to 31.08 km (transitional) and 7.08 km (transitional), respectively.

7.6.5.2 Entrained Oil results

Results of the stochastic modelling indicated that entrained oil concentrations greater than 100 ppb were predicted to reach ~59km away with the following shoals being potentially contacted (with the highest concentrations in any season):

- Vulcan Shoals 6% probability (maximum concentration 302 ppb); and
- Goeree Shoal 5% probability (166 ppb).

7.6.5.3 Dissolved aromatic results

Dissolved aromatic hydrocarbons at concentrations of 50 ppb or greater were not predicted to contact sensitive receptors evaluated. Dissolved hydrocarbon concentrations ≥10 ppb were observed up to 10.5 km (winter).

7.6.5.4 Shoreline accumulation results

Shoreline accumulation results of 100g/m^2 or greater were not predicted to contact sensitive receptors. The highest concentration of accumulated oil at a shoreline was 26g/m^2. Results of the stochastic modelling indicated that shoreline accumulation at >10g/m^2 has a 1% probability of reaching the following location:

- Cartier Island after 10 days and 18 hours.

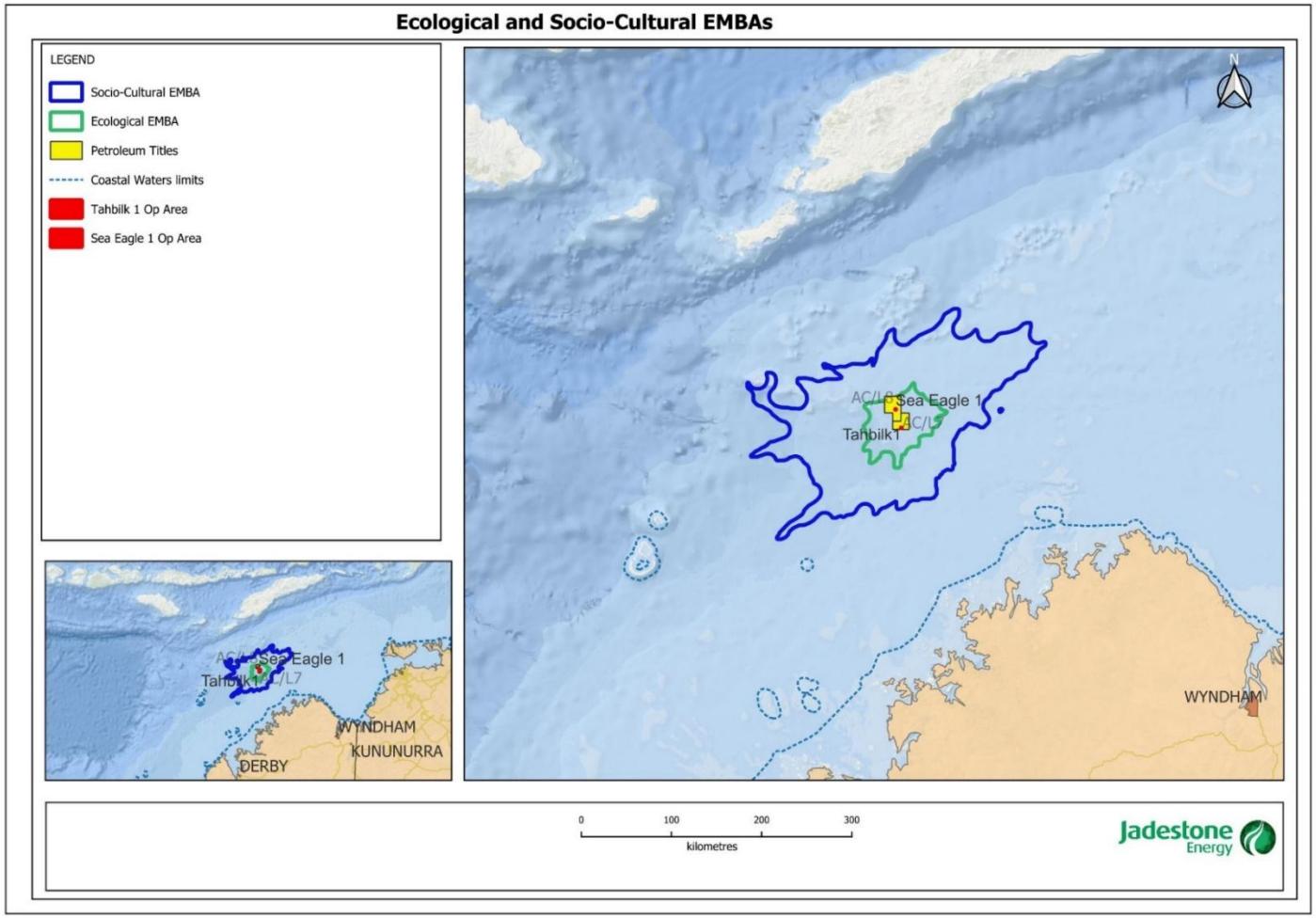


Figure 7-1: Low exposure threshold (Socio-cultural) and moderate exposure threshold (Ecological) EMBAs

7.6.6 Impacts and risks

Marine diesel oil is a highly volatile hydrocarbon with a high proportion of toxic monocyclic aromatic hydrocarbons (MAHs) that are harmful in varying degrees to marine fauna. Diesel contains some heavy components (or low volatility components) that have a strong tendency to physically entrain into the upper water column in the presence of moderate winds (i.e. >12 knots) and breaking waves and can resurface if these energies abate.

In the event of a substantial diesel spill, the heavier components of diesel can remain entrained or at sea surface for an extended period. Given the properties of diesel, it is expected that marine fauna, marine habitats, protected and significant areas and socio-economic receptors, have the potential to be impacted by surface and entrained thresholds.

A summary of impacts and risks to sensitivities and values within the marine environment is provided in Table 7-5. For further information on the habitats, marine organisms and socio-economic receptors refer to Appendix B and Section 3.

Table 7-5: Potential Impacts to sensitive receptors from a hydrocarbon spill within the moderate threshold (Ecological) EMBA

Receptors	**Potential Impacts from a hydrocarbon spill**		
	Floating and/or shoreline	Entrained	Dissolved
Plankton	Potential impacts from hydrocarbon spill There is potential for localised mortality of plankton due to reduced water quality and toxicity. Effects will be greatest in the upper 10 m of the water column and areas close to the spill source where hydrocarbon concentrations are likely to be highest.		
	Impact assessment to receptors within the Ecological EMBA High abundance of phytoplankton typically occurs around topographical features that may result in upwelling or a disruption to the current flow which may be present around banks and shoals. The Ecological EMBA has the potential to overlap with spawning of some fish species given the year-round spawning of some species. In the unlikely event of a spill occurring, fish larvae may be impacted by hydrocarbons entrained in the water column with effects greatest in the upper 10 m of the water column where the majority of plankton concentrate and closest to the spill source. However, following release, the diesel will rapidly evaporate, disperse and degrade in the offshore environment, reducing the concentration and toxicity of the spill. Given duration of fish spawning periods, lack of suitable habitat for aggregating fish populations near the surface, combined with the quick evaporation and dispersion of diesel, impacts to overall fish populations are not expected to be significant.		
Benthic habitat and communities (Including deepwater habitats and shallow shoals)	n/a – Benthic habitats not exposed to surface or surface oil	Potential impacts from dissolved and entrained oil Benthic habitats at shoals may be affected by marine diesel. This may result in toxic effects to both the habitat (in the case where the habitat is biological such as coral reefs) and associated flora and fauna. The degree of impact will depend on several variables, including the duration of exposure to DAHs and other diesel components. Sea grasses and macroalgae may experience a phytotoxic effect caused by absorption of DAHs from the water column. The hydrocarbon molecules can concentrate in membranes of aquatic plants, inhibiting photosynthetic efficiency (Runcie *et al*., 2004). Recovery of habitats experiencing chronic effects are expected within weeks to months of return to ambient water quality. Direct contact to shallow hard corals by entrained diesel could lead to impacts such as short or long-term sub-lethal effects including reduced feeding capacity and growth, reduced reproductive output and increased mucous production	

Receptors	Potential Impacts from a hydrocarbon spill		
	Floating and/or shoreline	Entrained	Dissolved
		(IPIECA, 1992). In the worst-case instance irreversible tissue necrosis and death could occur. Epifauna associated with hard substrates such as ascidians and sponges may experience direct toxicity through ingestion.	
	Impact assessment to receptors within the Ecological EMBA There are two shoals within the Ecological EMBA for the worst-case diesel spill: Goeree Shoal and Vulcan Shoal. These shoals have a diversity of benthic habitats and associated fish and invertebrate assemblages which could be affected by entrained or dissolved oil. The shoals have a number of representative habitats including corals, sponges, seagrass		
Marine mammals	Potential impacts from surface oil Physical and chemical effects of hydrocarbons in sea surface waters have been demonstrated through direct contact with organisms, for example through physical coating, adsorption to body surfaces and ingestion (NRC, 2005). Lethal or sub-lethal physical and toxic effects such as irritation of eyes/mouth and potential illness. Whales and dolphins are smooth skinned, hairless mammals, so hydrocarbons tend not to adhere to their skin and the potential impacts of oiling on them is limited.	Potential impacts from dissolved and entrained oil The high volatility of the diesel will result in the rapid evaporation and loss of the more toxic aromatic components of the diesel, resulting in a reducing toxicity threat to marine fauna with time. Surface respiration could lead to accidental ingestion of hydrocarbons or result in the coating of sensitive epidermal surfaces. For marine mammals that may be exposed to the more toxic aromatic components of the marine diesel, chemical effects are considered unlikely since these species are mobile and therefore not be constantly exposed for extended durations that would be required to cause any major toxic effects. Clogging of baleen structures and toxicological effects from ingestion, although recorded, is sparse in the literature (Geraci and St. Aubin, 1985). The susceptibility of marine mammal species to physiological effects through ingestion of surface and water column hydrocarbon varies with the feeding mechanism of each species: • Whales with a baleen mechanism filter nutrient-rich waters containing food such as plankton and small fish over the baleen (a sieve type structure) before subsequently moving the food to the oesophagus using the tongue;	

Receptors	Potential Impacts from a hydrocarbon spill		
	Floating and/or shoreline	Entrained	Dissolved
		• Baleen whales that skim surface waters and the water column (e.g. southern right whales) are more likely to be affected by surface hydrocarbons than other whales that 'gulp' feed such as the humpback whale; and • Toothed whales are also less susceptible to impacts owing to gulp feeding behaviour (Geraci and St. Aubin, 1985).	
	Impact assessment to receptors within the Ecological EMBA Marine mammals present within the Ecological EMBA include threatened and migratory whales and dolphins, and potentially dugongs (as the socio-logical EMBA overlaps a dugong BIA. The activity is being undertaken all year round and may overlap with blue whale migration and humpback whale migration and calving; therefore diesel may contact whales during these life stages. However, given the rapid evaporation of diesel it is unlikely that significant numbers would be impacted. The absence of key feeding, resting or breeding areas for other threatened and migratory species and rapid evaporation and dissipation of diesel means significant numbers are unlikely to be impacted.		
Marine Reptiles	Potential impacts from surface oil Marine turtles may be impacted by surface hydrocarbons through exposure during surface respiration, particularly where volatiles are being emitted in areas where fresher oil is weathering. Surface respiration could lead to accidental ingestion of hydrocarbons or result in the coating of sensitive epidermal surfaces.	Potential impacts from dissolved and entrained oil Entrained and dissolved oil may result in harm to internal anatomy if ingested, irritation or damage to sensitive external features such as eyes and skin and damage to respiratory processes if significant inhalation of volatile fumes occurs at the surface	
	Impact assessment to receptors within the Ecological EMBA Threatened and migratory marine reptile species may occur within the diesel spill area Ecological EMBA as turtles are widely dispersed at low densities across the region and in the unlikely event of a diesel spill occurring, individuals traversing open water may come into contact with water column or surface diesel. The diesel spill Ecological EMBA does not overlap with any BIAs for turtle species and there is no risk of contact with nesting turtles and hatchlings with surface and dissolved oil.		
Fish, Sharks, Rays	Potential impacts from surface oil	Potential impacts from dissolved and entrained oil	

Receptors	Potential Impacts from a hydrocarbon spill		
	Floating and/or shoreline	Entrained	Dissolved
	Near the sea surface, fish are able to detect and avoid contact with surface slicks and as a result, fish mortalities rarely occur in open waters from surface spills (Kennish, 1997; Scholz et al., 1992). Pelagic fish species are therefore generally not highly susceptible to impacts from hydrocarbon spills. However, hydrocarbon droplets can physically affect fish and sharks exposed for an extended duration (weeks to months). Coating of gills can lead to the lethal and sub-lethal effects of reduced oxygen exchange, and coating of body surfaces may lead to increased incidence of irritation and infection. Fish may also ingest hydrocarbon droplets or contaminated food leading to reduced growth.	In offshore waters near to the release point, pelagic fish are at risk of exposure to the more toxic aromatic components of the marine diesel. Pelagic fish in offshore waters are highly mobile and comprise species such as tunas, sharks and mackerel. Due to their mobility, it is unlikely that pelagic fish would be exposed to toxic components for long periods in this spill scenario. The more toxic components would also rapidly evaporate, and concentrations would significantly diminish with distance from the spill site, limiting the potential area of impact. Rays are typically found on benthic habitats and may be present around shoals in the area and likely below the area of water column affected by a diesel spill.	
	Impact assessment to receptors within the Ecological EMBA Whale sharks could potentially transit through the spill trajectory area given a foraging BIA that overlaps the Ecological EMBA. This is considered unlikely given the small area affected by the diesel spill and its distance from known aggregation areas. Owing to the rapid evaporation expected and dispersion, impacts to the whale shark would be expected to be minimal. The NWS supports a diverse assemblage of fish and shark species, particularly in shallower water near islands and shoals. Other shark and pelagic fish species may transit the spill trajectory area, but impacts would be anticipated to be negligible as most species will be well below the affected area of the water column.		
Avifauna	Potential impacts from surface oil Estimates for the minimum thickness of surface oil that will harm seabirds (through ingestion from preening of contaminated feathers or loss of thermal protection of their feathers) range from 10 g/m^2 (O'Hara and Morandin, 2010) to 25 g/m^2 (Koops et al. 2004). Seabirds have the potential to become oiled through interactions with surface waters in the spill area or through secondary ingestion of toxins as a result of feeding on affected prey. Potential impacts to seabirds are from contact, ingestion and/ or oiling of feathers. In addition, diesel can erode feathers causing chemical damage to the feather structure	Potential impacts from dissolved and entrained oil As most fish survive beneath floating slicks, they will continue to attract foraging seabirds, which typically do not exhibit avoidance behaviour. Potential impacts to avifauna due to entrained oil include: • Harm to internal anatomy if ingested; • Irritation or damage to sensitive external features such as eyes and skin; • Damage to feathers of marine birds;	

Receptors	Potential Impacts from a hydrocarbon spill		
	Floating and/or shoreline	Entrained	Dissolved
	that subsequently affects ability to thermo regulate and maintain buoyancy on water. Seabirds may also come into contact with marine diesel around shorelines as it percolates through the beach profile during feeding, breeding and roosting activities. This may result in chemical impacts to feathers and exposed skin from the diesel.	• Damage to respiratory processes of air breathing marine fauna if significant inhalation of volatile fumes occurs at the surface.	
	Impact assessment to receptors within the Ecological EMBA Threatened and migratory seabirds and shorebirds that may occur within the Ecological EMBA may have foraging, feeding, breeding and or nesting habitat in the vicinity of the Ecological EMBA. The Ecological EMBA does not intercept with any avifauna BIAs Due to the quick evaporation and dispersion of diesel, significant impacts are not anticipated.		
AMPs	Potential impacts from surface oil Surface oil is not expected to occur at shorelines of AMPs.	Potential impacts from dissolved and entrained oil Entrained and dissolved hydrocarbons will or may impact the coral and seagrass habitats, as well as other marine park values fauna including dugongs, sea snakes (protected), fish and other marine mammals. Impacts to these receptors are described above.	
	There are no AMPS present within the Ecological EMBA.		
State Marine Parks	There are no State Marine Parks within the diesel Ecological EMBA.		
World, National and Commonwealth Heritage Places	There are no World, National and Commonwealth Heritage Places within the diesel Ecological EMBA.		

Receptors	Potential Impacts from a hydrocarbon spill		
	Floating and/or shoreline	Entrained	Dissolved
Threatened Ecological Communities	There are no threatened ecological communities within the diesel Ecological EMBA.		
Wetlands of International Importance	There are no wetlands of international importance within the diesel Ecological EMBA.		
KEFs	There are no KEFs within the diesel Ecological EMBA.		
Consequence	Likelihood	Ranking	
Minor	Unlikely – Heard of in the exploration and production industry. ITOPF has calculated that for the last 50 years the average number of incidents involving medium sized (7-700 tonnes) oil spills from vessels globally has decreased by over 90% since the 1970s. There has been little change in the last decade and since 2014 stands at a yearly average of 7.4 spills per year globally. With the controls that are in place as detailed in this EP, the likelihood of a significant collision resulting in hydrocarbon release is therefore considered *unlikely*.	Low	

7.6.7 Priority protection areas

The assessment of protection priority areas is described in Section 4.4 of the OPEP, an assessment of the modelling results against Jadestone's PPA criteria revealed no receptors met the criteria and therefore no PPAs exist for this activity. A Strategic Spill Impact Mitigation Assessment also referred to as a Net Environmental Benefit Analysis (NEBA) is used as a decision support tool to consider available information which helps select the most suitable response strategies or combination of strategies that would minimise impacts to ecological, cultural, economic and social values. Different response strategies provide varying levels of effectiveness and protection under different environmental conditions, depending on the individual spill. This is further detailed in the OPEP.

7.6.8 Environmental performance

Environmental Risk		**Unplanned release of diesel**		
Performance Outcome		No spill of diesel to the marine environment from vessel collision		
I.D	Management controls	Performance Standards	Measurement Criteria	Responsibility
46	No vessel to vessel bunkering	Vessel to vessel refuelling will not occur within the operational area	Fuel record books demonstrate no in-field refuelling	Vessel Master
47	Shipboard Oil Pollution Emergency Plan requires: • Valid SOPEP/SMPEP • Timely exercises undertaken	Compliance with MARPOL 73/78 Annex I (Prevention of pollution by oil) and Marine Order 91 (Marine pollution prevention – oil) (as appropriate to vessel class), including valid SOPEP for managing spills	Records demonstrate vessels have valid SOPEP/SMPEP	Vessel Master
48		Drills undertaken as per SOPEP	Exercise records	Vessel Master
49	Implement Sea Eagle and Tahbilk Vessel Based Activity OPEP (TM-70-PLN-I-00005)	In the event of a tier 2 or tier 3 oil spill, implement to reduce environmental impacts	Incident Log	IMT Lead
50	Jadestone Energy's Competency and Training management System (JS-60-PR-Q-00014) requires External Contractors to comply with project processes and procedures and have the appropriate level of HSE capability	Vessel personnel trained and assessed competent in accordance with their role requirements as aligned with Recruitment Assessment Templates or Contractors equivalent Competency Assessment system	Records of competency	Vessel Master Drilling Manager
51	Vessel navigation aids and equipment meet regulatory and safety requirements by aligning with Navigation Act 2012	Vessels will comply with maritime safety and navigation requirements including: • International Regulations for Preventing Collisions at Sea 1972 (COLREGS);	Records confirm that required navigation equipment is fitted to all vessels to ensure compliance with maritime	Vessel Master

Environmental Risk		**Unplanned release of diesel**		
Performance Outcome		No spill of diesel to the marine environment from vessel collision		
I.D	Management controls	Performance Standards	Measurement Criteria	Responsibility
		• Chapter V of Safety of Life at Sea (SOLAS); • Marine Order 21 (Safety of navigational and emergency procedures) (as appropriate to vessel class); • Marine Order 30 (Prevention of collisions) (as appropriate to vessel class); • Vessels to maintain radio channels and other communication systems.	safety and navigation requirements. Records confirm vessels maintain communication systems.	
52	In the event of a vessel collision resulting in a loss of diesel, environmental impacts will be reduced to ALARP through the implementation of response strategies.	In the event of a Level 2 or Level 3 spill, compliance with the OPEP including develop and implement an IAP using the processes described within the OPEP.	Response records confirm the OPEP was adhered to and an IAP was developed and implemented.	IMT Lead

7.6.9 ALARP assessment

For a Level 1 oil spill, containment and clean-up is assisted through the bunding system provided around equipment and the regular inspection programs. Spills are responded to as per emergency and spill response procedures which are practised through regular spill/ emergency response drills on vessels. In the event that diesel is not contained through the barriers and procedures onboard the vessel, the OPEP, which outlines the detailed response and logistical requirements necessary to combat a worst-case spill, will be implemented to reduce the impacts of a crude oil spill to ALARP.

A Net Environmental Benefit Analysis (NEBA) will be used to determine which spill response strategies are appropriate for a given spill scenario and is an integral part of the IAP process. Source control, operational monitoring activities and spill response strategies considered for a Level 2/3 spill are detailed in the OPEP.

The spill response strategies have undergone a robust evaluation and environmental risk assessment process. The applicability of the control to the spill scenario and establishing requirements for each control to ensure its effectiveness in meeting the EPO was also undertaken.

The assumption was that existing controls were ineffective (i.e. 100% probability the spill occurred) and each control would be exposed to the full volume of oil under the maximum credible worst-case scenario. This approach promoted a level of conservatism in the proposed control strategies, and, in particular, the measures for determining the effectiveness of controls and the requirements to achieve the level of effectiveness.

The ALARP assessment for the level of resourcing required for each of the spill response strategies adopted is summarised in Table 7-6 and based on the capability described in the OPEP. This considers the incremental benefit of increasing resourcing levels for each spill response strategy and the associated upfront costs. The effectiveness of each of these response strategies has been increased to a point where further sacrifice made would result in a disproportionately small reduction in environmental benefit.

From this assessment, it is considered that through the resourcing arrangements outlined within the OPEP and in Section 6.6.3 (including spill response equipment and personnel from internal and external sources including via the AMOSPlan, AMSA, OSRL, other operators and other national suppliers) the spill response strategies and control measures reduce spill risk to ALARP.

Table 7-6: ALARP assessment for increasing the level of resourcing in the OPEP for spill response strategies

Strategy tasks and resources arrangement improvements considered	Environmental/Social/Economic consequences of additional resources from those described in the OPEP	Practicality of additional resources	ALARP assessment	Adopted?
Source Control – increase oil spill response capability of vessels beyond a Level 1 response Section 11 of OPEP	Reduce volume or speed of spill entering marine environment.	Significant cost would be incurred for Jadestone to alter the contractual arrangements to increase capability with consideration for equipment, storage, maintenance, crew training and safety of crew when deploying gear.	The vessel has the response capability as described in the SOPEP and geared towards a Level 1 incident. The SOPEP is to provide shipboard notification and response procedures for stopping or minimizing the unexpected discharge of oil from a vessel without compromising the safety of the crew, the vessel or the environment. Unexpected discharge includes the discharge of oil during vessel operations, or vessel casualty. It is consistent with the National Plan that vessels have a level 1 capability. For Jadestone to increase the response capability above a Level 1, would be a disproportionate benefit for the effort. In addition, the worst-case spill results from a vessel collision and the priority of the vessel master is to safeguard the crew and remove all non-essential personnel. Therefore, there is no value in supplementing the vessels' SOPEP capability, and therefore the arrangements described in the OPEP are considered ALARP.	No
Aerial surveillance – additional dedicated aircraft and observers	Limited environmental benefit by having additional dedicated resources -increase identification of marine fauna presence.	Additional charter costs would be incurred by Jadestone to increase aerial surveillance. There may be a need for additional resources if	Aerial surveillance is not the only dedicated surveillance tactic. Opportunity for surveillance will also occur from responder movements. Increasing aerial surveillance would increase the safety risk. The spatial extent of the spill is more dependent on tidal influences than the wind. The two-passes per day dedicated aerial surveillance is sufficient to validate and inform the IAP process to	No

Strategy tasks and resources arrangement improvements considered	Environmental/Social/Economic consequences of additional resources from those described in the OPEP	Practicality of additional resources	ALARP assessment	Adopted?
		determined through the IMT based on the amount of available information and potential data gaps. These can be arranged without need for further upfront costs or planning.	ensure overall response is commensurate with nature and scale of incident. Therefore, there is no value in increasing dedicated overpasses and therefore the arrangements described in the OPEP are considered ALARP.	
Vessel surveillance – additional dedicated vessels and observers	No environmental benefit for additional dedicated resources given the need is met through vessel sharing and surveillance will also be conducted through a number of complementary operational monitoring strategies (aerial surveillance, tracker buoys	In the event that additional dedicated vessels are required due to data gaps, resources are available. The cost of the additional vessels will be added to the cost of the response.	There is no benefit in having additional dedicated surveillance vessels given surveillance can be performed from any vessel and these duties will be shared amongst spill response vessels. Increasing vessel surveillance would increase the safety risk. Aerial surveillance, tracker buoys and UAVs are more efficient and effective at determining extent of oil movement, vessel surveillance is a secondary tactic. Therefore, there is no value in increasing dedicated vessel numbers and therefore the arrangements described in the OPEP are considered ALARP.	No
Tracking buoys – additional tracking buoys	No environmental benefit for additional dedicated resources. Tracker buoys require maintenance which can be scheduled from the Montara CPF as part of the spill response equipment	Additional buoys are available through AMSA and AMOSC within days. There is no additional upfront cost for accessing these secondary buoys.	Tracking buoys are one tactic in the operational monitoring strategy. The number of buoys immediately available is sufficient to cover tracking of oil given the other response activities that will be undertaken. Therefore, there is no value in increasing tracker buoy numbers and therefore the arrangements in the OPEP are considered ALARP.	No
Ongoing real time collection of data	Greater awareness of the environment	An ongoing surveillance program would be at	Ongoing collection of real time environmental data would provide immediate inputs into decision making however this would require the	No

Strategy tasks and resources arrangement improvements considered	Environmental/Social/Economic consequences of additional resources from those described in the OPEP	Practicality of additional resources	ALARP assessment	Adopted?
prior to any spill event.		considerable cost to the project. Depending on the measured parameters this could involve ongoing costs in the order of hundreds of thousands each year.	use of aerial resources, satellite resources, ground surveys and marine surveys. The existing contracts in place for aerial surveillance, satellite imagery, trajectory modelling can be activated in a timeframe that provides short, medium, and long-term access to data.	

On the basis of the impact and risk assessment completed, Jadestone considers the control measures described above are appropriate to manage the risk of an unplanned release of diesel to the marine environment. The residual risk ranking for this potential impact is considered Low, and therefore ALARP has been demonstrated. Additional controls considered but rejected are detailed below.				
Rejected control	Hierarchy	Practicable	Cost effective	Justification
Use alternative energy sources	Eliminate	N/A	N/A	The use of diesel for fuel for vessels and machinery cannot be eliminated, vessels and machinery are required for the operations and diesel is therefore required. Other energy sources are not readily available to power all equipment and vessels.
Substitute diesel for another hydrocarbon type	Engineering	N/A	N/A	Machinery is designed for using diesel as the fuel oil which reduces the potential impact from an unplanned release to as low as possible. As no other hydrocarbon has been identified that is more environmentally friendly that could still fulfil the equipment requirements, no engineering controls have been identified.
Installation of an active well monitoring system instead of the passive	Substitution	Yes	No	This system would require a longer period on location for installation and regular vessel visits to site for approximately 2 days every two weeks. This would therefore increase the possibility of an unplanned release significantly over the course of each year due to the increased frequency of vessels and activities in the field. The passive system is therefore considered to be more acceptable.
N/A	Isolation	N/A	N/A	The Activity is located at distance from sensitive receptors and the coastline.
N/A	Administrative	N/A	N/A	Through the application of specific controls and procedures, and maintenance of hoses, no further administrative controls were identified.

7.6.10 Acceptability Assessment

The potential impacts of an unplanned diesel release to the marine environment are considered 'Acceptable' in accordance with the Environment Regulations, based on the acceptability criteria outlined below. The control measures proposed are consistent with relevant legislation, standards and codes.	
Policy & management system compliance	Jadestone's HSE Policy objectives are met. Section 8 demonstrates that Jadestone's HSE Management System is capable of continuously reviewing and updating activities and practices during the VBA, including spill response arrangements.
Stakeholder & reputation	Stakeholder consultation has been undertaken (see Section 4), including engagement with the National response agency AMSA, commercial and recreational fishing industry bodies and fishers. No concerns have been raised with regards to impacts of a diesel spill by relevant persons. During any spill response, a close working relationship with key regulatory bodies (e.g. DBCA, AMSA, DEPWS) will occur and thus there will be ongoing consultation with relevant persons during response operations.
Environmental context & ESD	The worst-case credible diesel spill scenario for VBA is a result of a support vessel collision with a third-party vessel in the operational area. Entrained oil may contact Goree and Vulcan Shoal. The potential impact is considered acceptable after consideration of: • Potential impact pathways: Section 7.6.6. assesses the likelihood and consequence of the exposure of sensitive receptors to entrained, dissolved and surface diesel; • Preservation of critical habitats: Section 7.6.6 assesses the worst-case exposure of protected habitats. Sensitive receptors at risk include protected seabirds, shorebirds, marine fauna, intertidal and shoreline habitats • Assessment of key threats described in species and Area Management /Recovery plans: See 'Conservation and management advice' below; • Consideration of North-West Bioregional Plan: The NW Bioregional Plan considers hydrocarbon oil spills (i.e. not specifically diesel) as a threat to marine conservation values. This EP aligns with the requirement of the NW Bioregional Plan to assess potential impacts and to have an Oil Spill Contingency Plan in place; and • Principles of ecologically sustainable development ESD: Given the nature of diesel, the location of the Drilling Program and the prevention and recovery plans, the risks from diesel exposure are not predicted to impact population levels of marine fauna and communities. Biodiversity and ecosystem integrity impacts are predicted to recover fully.
Conservation and management advice	Jadestone will have regard to the representative values of protected areas and other published information or conservation advice and endeavor to ensure that priority is given to the social and ecological values, of any AMPs, or State Marine Parks impacted by diesel. Noting 'Emergency response' is permitted in all AMPs and state marine parks. Actions required to respond to oil pollution incidents, including environmental monitoring and remediation, in connection with activities authorized under the OPGGS Act may be conducted in all zones. The Director will be notified in the event of an oil pollution incident that occurs within, or may impact upon, an Australian Marine Park and, so far as reasonably practicable, prior to a response action being taken within a marine park. The 'Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species' will be applied/ used as guidance in the event of an oil spill.

8. IMPLEMENTATION STRATEGY

As required under Regulation 22(1) of the OPGGS 2023 (Environment) Regulations, Jadestone must provide an implementation strategy that will ensure:

- All environmental impacts and risks of the activity will be continually identified and reduced to a level that is ALARP;
- Control measures identified in the EP are effective in reducing the environmental impacts and risks of the activity to ALARP and acceptable levels;
- That environmental performance outcomes and environmental performance standards are met;
- Arrangements are in place to respond to, and monitor impacts of, oil pollution emergencies; and
- Stakeholder consultation is maintained through the activity as appropriate.

To meet these requirements the implementation strategy outlined in this EP includes the following:

- Details on the systems, practices and procedures to be implemented (Section 8.1);
- Key roles and responsibilities (Section 8.2);
- Training, competencies and ongoing awareness (Section 8.2.3);
- Monitoring, auditing, management of non-conformance and review (Sections 8.3 and 8.4);
- Incident response including Oil Pollution Emergency Plan (Section 7.5.4 and OPEP);
- Record keeping (Section 8.4.2); and
- Stakeholder consultation (Section 4).

As Titleholder, Jadestone is responsible for ensuring that the drilling activities to occur within the Operational Area are managed in accordance with this EP, as well as the implementation strategy, the Jadestone HSE Policy and the Business Management System.

8.1 Jadestone Business Management System

Jadestone applies an integrated Business Management System that is aligned with ISO 55000: Asset Management. This covers all activities and includes provision for the systematic management of environment and safety and all other business functions. The Jadestone Business Management System ensures alignment between company objectives and the activities associated with operation of the Montara facilities in a structure that is illustrated by Figure 8-1.

The management system sets a structured framework that provides governance across company processes for all organisational activities, with defined accountabilities and performance requirements for employees and contractors to deliver activities aligned to the vision and requirements of Jadestone Energy, including those identified in this EP. At the highest level, environmental performance expectations are communicated by the Jadestone HSE Policy.

The structure of the management system is organised to describe the business activities by objective functions (Figure 8-2).



Figure 8-1: Business management system structure



Figure 8-2: Business activities and objective functions

The objective functions are organised into 'Lead', 'Core' and 'Help', which describe how the intent of the business is delivered. The Lead functions are the activities that provide direction to the Core functions, which represent the life cycle of oil and gas activities. The purpose of the Lead functions is to enact and inform strategy and to guide the Core functions in the delivery of their activities.

Delivery of HSE management and performance is fully integrated (including implementation of the EP) throughout the objective functions relevant to operation of the activity. The relevant functions are:

- Operational excellence;
- Value discipline;
- People;

- Stakeholder management;
- Risk management;
- Develop;
- Produce; and
- Provide goods and services.

Below is a summary of the mechanisms by which these functional areas contribute to HSE management and performance during the activity.

8.1.1 Operational Excellence

'Operational Excellence' provides the systems, tools and processes which ensure that all learning experiences that have the potential to improve operational safety, integrity and efficiency, and reduce negative impacts to the environment, to be captured, evaluated and disseminated for future implementation.

The Operational Excellence function is a continuous process and is summarised in Figure 8-3.

The Operational Excellence function addresses the key points of:

- Capturing of lessons learnt;
- Review of lessons learnt; and
- Incorporation of knowledge in future work.

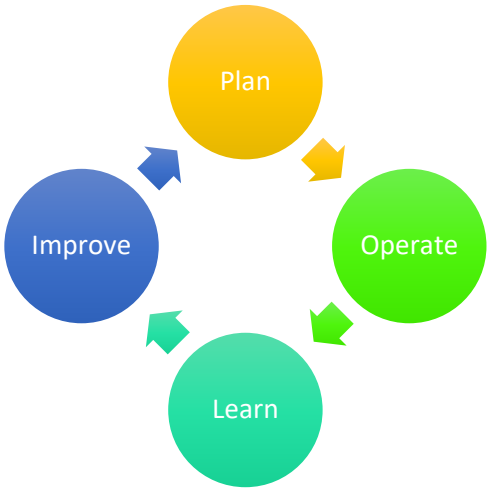


Figure 8-3: Operational and excellence business functions

Knowledge and best practices can be captured from many sources including internal and external, such as:

- Audits and inspections;
- Emergency response drills;
- Incident reviews;
- Technical papers, legislation and journals; and
- Prior experience.

Any actions arising from the assessment of information are incorporated into the Computerised Maintenance Management System (CMMS). Processes, procedures and systems are improved based on the historical lessons learnt and applied in subsequent phases.

8.1.2 Value Discipline

The 'Value discipline' function represents the processes – including annual budgeting, capital funding – that ensure value and capital requirements are met and support the management system functions delivering their business objectives including HSE performance. Commonly HSE performance is a proxy for business performance and therefore HSE management is of interest to the Value discipline function of the management system.

8.1.3 People

The Jadestone Energy Competency Assurance Framework provides the formal systems, tools and processes which ensure that personnel are appropriately trained and competent to complete assigned tasks to an expected standard. Competency assurance is a necessary component of any approach to reduce safety, integrity and environmental risks to a level that is ALARP.

The Competency Assurance Framework addresses the key points of:

- Competency requirements (qualification, experience and training) are maintained for all Jadestone Energy positions where the incumbent is required to undertake, supervise, review or verify critical tasks or where the incumbent has the technical authority to approve critical documents;
- Competent persons are members of the workforce who meet the competency requirements for the respective positions to perform critical tasks without direct supervision;
- Candidates being considered for appointment in a critical position are assessed against the applicable competency requirements before being formally appointed;
- Incumbents must be reassessed against the competency requirements as per the required frequency stipulated in the competency matrix; and
- All contractors with personnel in the field are prequalified in accordance with the Contractor Management Framework.

Jadestone Energy personnel are subject to the provisions of the Jadestone Competency Assurance Framework which outlines the training, development and assessment requirements necessary to ensure that all employees have the relevant knowledge and skills required to conduct their activities in a safe and environmentally responsible manner.

A training and skills matrix has been developed for all positions which identifies responsibilities, training and competency requirements. Personnel will complete relevant training and hold qualifications and certificates for their specific role (e.g. well control certificates, rigging and crane operator certificates etc.). Training records will be retained.

8.1.4 Stakeholder Management

Relevant Persons consultation for this activity will be ongoing and Jadestone will work with stakeholders before, during and after the activity. Ongoing consultation serves a number of purposes:

- Provisions of updates on activity progress;
- Close out of communication commitments made during pre-start consultation;
- A platform to notify relevant persons of any deviations to the activity details originally provided during pre-start consultation;
- A platform to communicate with relevant persons during an emergency;
- Development of open communication channels with key relevant persons; and
- Provision of broader information relating to Jadestone that is not necessarily company specific.

While ongoing consultation with relevant persons and other stakeholders can be beneficial it is important not to overwhelm with too much information creating stakeholder fatigue.

Ongoing consultation activities build upon Jadestone's consultation for the activity. Section 4 outlines the processes that will be followed to ensure a standard approach to interacting with relevant persons during the life of the EP, including revision of relevant persons' list and process for dealing with feedback during this period. As part of ongoing consultation Jadestone will undertake the following activities (Table 8-1).

Table 8-1: Standard consultation actions

ID	Activity	Frequency and method	Responsibility
058	Provide response organisations with a copy of the OPEP	Email response organisations	ER Lead
059	Notification of commencement (first monitoring activity) and cessation of activity to NOPSEMA	Within 4 weeks of commencement date and at cessation	Regulatory Compliance Lead
060	Notification of AMSA Joint Rescue Coordination Centre (JRCC) of commencement and cessation of activity	48–24-hours from commencement of operations	HSE Manager
061	Notification of commencement of activity to Australian Hydrographic Office (datacentre@hydro.gov.au)	4 working weeks prior to operations (first monitoring trip) commencing	Regulatory Compliance Lead

In addition, Jadestone will undertake additional triggered consultation as outlined below, should an unplanned event occur (Table 8-2).

Table 8-2: Triggered consultation actions

ID	Trigger	Action	Responsibility
062	Feedback received from relevant person	Follow consultative process outlined in the Consultation for Environmental Approvals procedure	HSE Manager
063	Significant deviation to the planned activity from those originally provided in consultation	• Notification to relevant persons (including AHO and JRCC) • Notify AMP Director General if any change to risk within AMPs.	HSE Manager

ID	Trigger	Action	Responsibility
064	Oil spill event	• Notification to response agencies and government agencies by phone. • Attempt to electronically notify all relevant persons listed 4 as soon as possible. • Ongoing updates and communication in accordance with requirements and response procedures. • Notification of DPIRD via environment@fish.wa.gov.au within 24-hours of incident report. • Notify AMP Director General within 24-hours of incident report and prior to spill response activities within AMP on 0419 293 465. To include titleholder details, time and location of the incident, proposed response arrangements and locations as per the OPEP, Confirmation of providing access to relevant monitoring and evaluation reports when available and contact details for the response coordinator.	IMT Leader
065	AMP access	Notify AMP Director General of SMP (or other response activities) within AMP 10 days prior to entering (where possible) and at the cessation of activities in AMPs.	IMT Lead
066	Biosecurity incident: suspected marine pest or disease	Notification of DPIRD via biosecurity@fish.wa.gov.au or 1800 815 507 within 24-hours.	HSE Manager
067	Change to infrastructure that affects PSZ	Notify the Australian Hydrographic Office of activities and infrastructure for inclusion in Marine Notices	HSE Manager

In the event of a tier 2 hydrocarbon spill, Jadestone will notify all identified relevant persons within 72 hours of the event (refer OPEP). In addition, if any scientific monitoring programs (SMPs) are triggered during the spill response the following steps will be undertaken.

Step 1: Confirm relevant persons

For the SMP that has been triggered, review relevant persons with a direct interest in either the area monitoring will be undertaken or values that may be affected.

As a minimum, if any SMP is triggered then the following relevant persons will be consulted with:

- Director of National Parks;
- WAFIC (based on WAFIC advice on behalf of individual fishers);
- Indigenous bodies;
- Department of Biodiversity, Conservation and Attractions (WA) and/or Department of Environment and Natural Resources (NT); and
- DPIRD (Fisheries) and/or DPIF (NT).

Step 2: Relevant person notification of activation

Prior to SMP activities being undertaken (10 days where possible), email or phone notification to identified SMP relevant persons including:

- Summary of activities/methodology to be undertaken;
- Location of activities;
- Approximate timing of activities; and
- Contact details with invitation for comment.

Step 3: Updates

Updates as required while SMP being undertaken.

Step 4: Relevant person notification of termination

Ten days prior to the cessation of the SMP activities, notify relevant persons of:

- Proposed date of cessation;
- Summary of results (or date when results will be available and invitation to be provided copy); and
- Contact details with invitation for comment.

8.1.5 Risk Management

Jadestone has an integrated approach to risk management to cover all its business activities.

The Risk Management function provides a view of risk that is independent of production delivery. This includes strategic, commercial, and control and compliance risks. In addition, it manages Health Safety and Environment activities, including the preparation and approval of regulatory approvals (including this EP) and the management of change process, which addresses all change activities regardless of type – technical, organisational, software or procedural. Further information on the management of change process is provided in Section 8.4.2.

At the activity level, the risk management function includes all the planned activities and accidental events. Risk identification and assessment is a continuous process that identifies all the physical control measures necessary to manage the risks. Control measures are subjected to regular assurance activities. In a similar way, audits of the management system are conducted according to review cycle with timing agreed in the annual planning process. Findings from assurance activities, audits and ongoing review of performance are considered in the Operational Excellence process, which considers opportunities for continuous improvement (refer Section 8.4).

The Risk Management function is accountable for approval of facility level risk assessments and risk reduction measures; and by so doing, providing a view of risk that is independent from production delivery.

8.1.6 Produce

The Produce function delivers safe and reliable operations as well as environmental performance.

The Produce function works closely with the Operational Excellence and Risk Management functions to evaluate operational performance, including environmental performance, and reduce risk through delivery of continuous improvement activities. Produce is responsible for asset optimisation, reliability, integrity and maintaining compliance. It thus interacts with most functions.

The Produce function delivers environmental management at the activity level via the Computerised Maintenance Management System (CMMS) including detailed work instructions and tasks allowing the activity to meet the environmental performance requirements of this EP. These instructions and tasks are monitored and reviewed to ensure appropriate close out of tasks is achieved as well as ensuring the required outcomes/ performance have been achieved.

8.1.7 Provide Goods and Services

HSE performance in all activities associated with operation is achieved either through management of personnel involved, or via management of contracted works.

The Jadestone Competency Management Framework provides personnel with a systematic and uniform approach for managing and improving Health, Safety and Environmental (HSE) performance throughout the life cycle of an individual's appointment, from their selection through to post-completion performance evaluation. The Personnel Management Framework addresses the key points of selection, competency, development requirements and management.

HSE performance is also achieved through Jadestone's Contractor Management Framework. The contract management life cycle follows four steps: pre-qualification; selection; engagement; and contract completion review process. Through each of these steps Jadestone and service provider/ supplier is evaluated for previous HSE performance and engaged in the mechanisms by which HSE performance will be achieved in the contract to be established.

8.2 Key Roles and Responsibilities

As per Regulations 22(3) and 22(4), a clear chain of command setting out the roles and responsibilities of personnel involved in operation is required as well as detail on what measures are in place to ensure personnel are aware of their role requirements and how Jadestone evaluates their competency and training needs in these roles. In response to these regulatory requirements, provided in this sub-section is information on:

- **Section 8.2.1 Organisational Chart**: outlines the key roles involved in the VBA;
- **Section 8.2 Role responsibilities**: summarises the responsibilities of each key role involved in the VBA;
- **Section 8.2.2 Communication requirements**: outlines how personnel fulfilling key roles are made aware of their responsibilities as described in the EP; and
- **Section 8.2.3 Assessment of Competency and Training**: outlines how Jadestone assesses and evaluate the competencies and training requirements of personnel responsible for achieving the commitments with this EP.

8.2.1 Organisational Structure and Responsibilities

The organisational structure for the activity is presented in Figure 8-4.

Each position has a position description outlining their HSE role and responsibilities, accountabilities and reporting lines (**Table 8-3**). It is the responsibility of all Jadestone personnel to ensure that the requirements of the HSE Policy are applied in their area of responsibility and that personnel are suitably trained and competent in their respective roles.

Mandatory training requirements are mapped out in a competency matrix. Further information is provided in the Training and Competency Management policy (JS-60-PR-Q-00015). The purpose of the Facility Training and Competency Management policy is to outline the requirements for maintaining facility staff competency and training. This document provides an overview of the requirements for facility company personnel to meet their training obligations and the context within which this framework operates.

It is the responsibility of all Jadestone personnel to ensure that they have read and understood the requirements of the HSE Policy. All personnel are suitably trained and competent in their respective roles.

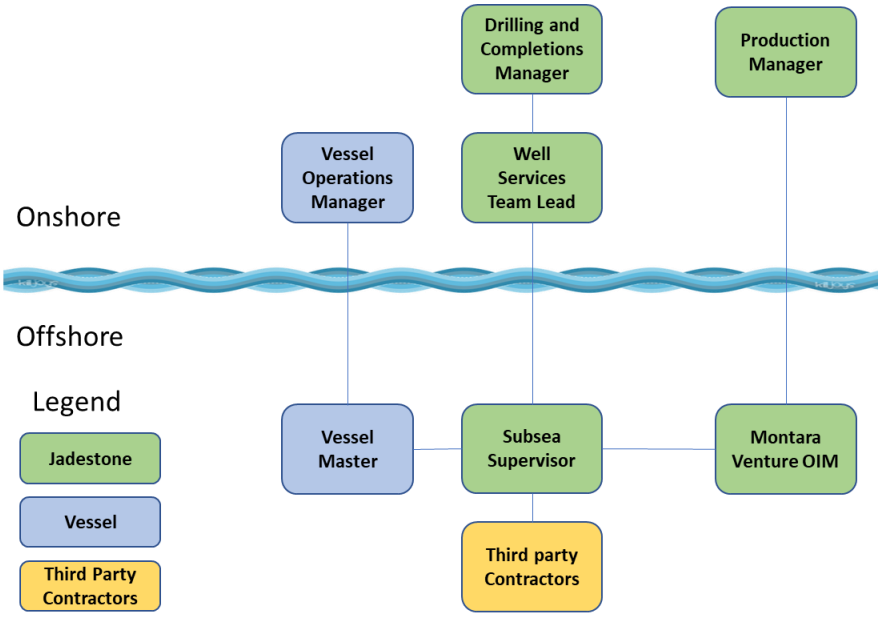


Figure 8-4: VBA organisation chart

Table 8-3: Responsibilities of Key Roles

Role	Key Responsibilities
Country Manager	• Ensures that activities are conducted in accordance with the Jadestone's HSE Policy. • Primary responsibility for Jadestone Australia operations and for meeting or exceeding corporate targets for all aspects of performance, including conducting activities in accordance with Jadestone's HSE Policy and this Environment Plan. • Responsible for providing adequate resources for environmental management. • Accountable for Operational Excellence. • Ensures the incident response strategy is implemented in the case of an incident. • Responsible for compliance with the BMS. • Maintains communication with company personnel, government agencies and the media, where appropriate.
Drilling and Completions Manager	• Responsible for ensuring that JSE policies, management principles and standards are followed in the well design and operational phases. • Responsible for ensuring that best practices are used in the planning and execution of the campaign. This includes ensuring that lessons learned in previous campaigns are applied to this current campaign. • Ensure that the requirements of this EP are implemented
Well Services Lead	• Responsible for offshore inspection and monitoring operations meeting environmental performance and compliance requirements of the EP. • Coordinate all IMR activities are undertaken by Company personnel and its contractors in accordance with approved programmes and appropriate legislation as detailed in this EP. • Ensure that all operational, technical and environmental incidents during IMR operations are reported to the Drilling and Completions Manager • Responsible for regular reporting through daily reporting formats.

Role	Key Responsibilities
	• Manage HSE hazards and risks related to IMR activities by ensuring procedures and risk reduction processes have been employed for all activities under their control.
JSE Subsea Engineer	• Responsible for ensuring correct procedures and practices are followed. • Responsible for HSE and operational support for all phases of VBA operations. • Ensures the Program is executed in compliance with JSE policies and is communicated, verbally and in writing, to the appropriate representatives on board the vessel. • Acts as JSE's senior representative and manages all JSE contractors on board the vessel. • Reports directly to the JSE Drilling Superintendent on all matters.
Marine superintendent	• Overall responsibility for vessel contracting and management
Supply Chain Manager	• Overall responsibility for implementation of the contractor management framework, including communication of EP requirements to contractors at the appropriate stages of contract management cycle.
Offshore Installation Manager (OIM)	• Responsible for day to day operations in the field. • Overall responsibility for spill response in the field.
HSE Manager	• Ensures review of daily, weekly and monthly reporting, as applicable, from the vessel. • Ensures environmental department liaison with the VBA to deliver compliance with all aspects of this EP. • Plans and schedules environmental audits of the activities. • Ensures regulatory documents are prepared and meet regulatory requirements. • Ensures emergency response plans are in place. • Develops and participates in oil spill response activities. • Ensures reporting of all relevant environmental incidents to NOPSEMA within the required timeframes. • Ensure environmental incident reporting meets regulatory requirements (as outlined in the EP) and incident reporting and investigation procedure. • Ensures that proposed changes to environmental management activities are subject to Management of Change and approved prior to application.
Vessel personnel and contractors	• Adhere to work systems and procedures defined for the activities being undertaken. • Follow good housekeeping work practices. • Report HSE incidents, hazards or non-conformances to supervisors in a timely manner. • Identify HSE improvement opportunities wherever possible.

8.2.2 Communication of Responsibilities

The primary mechanism for ensuring personnel involved in the VBA are aware of the environmental commitments as listed in this EP are via:

- provision of environmental performance commitments lists via the CMMS;
- management of service providers and suppliers (refer below); and
- online induction prior to attending the field.

All personnel are required to complete an online induction that contains environmental components prior to arrival at the operational area. Inductions are updated to account for site-specific factors or activities, or

EP management improvements. Induction attendance records for all personnel are maintained. At a minimum, inductions include:

- The Jadestone HSE Policy;
- Description of the environmental sensitivities within the Operational Area and surrounding waters;
- Identification of environmental risks and mitigation measures;
- Procedures for reporting of any environmental incidents or hazards;
- Waste management requirements;
- Overview of incident response and spill management procedures, including roles and responsibilities;
- Roles and environmental responsibilities of key personnel; and
- Direction on where to find copies of the EP and OPEP.

8.2.3 Competencies and Training

Personnel will also be provided annual training through drills and/or exercises as per the Incident Management Team Response Plan (JS-70-PLN-F-00008). To ensure workforce competence is maintained during the life of the facilities, Jadestone will ensure that all required training and inductions are completed in a timely manner and tracked using a learning management system. Jadestone has a series of inductions and E-learning modules that must be completed by staff, contractors and visitors as detailed in Company Competency Matrices.

Jadestone Energy's Contractor Management Framework (JS-90-PR-G-00002) provides a process for ensuring that Contractors and Services Providers have the appropriate level of HSE capability. The assessment of Contractors and Service Providers competency provides a sound level of assurance that all key third-party personnel involved in operations have the necessary skills, knowledge, experience, and ability to perform their work in accordance with their company's training and competency systems.

Contractors and service personnel are assessed against their company's criteria and any additional criteria required by Jadestone Energy. Records of competent people are maintained in EDMS.

Competencies and training arrangements for personnel involved in oil pollution response are detailed in the OPEP and records maintained in EDMS. Personnel will also be provided annual training through drills and/or exercises as per the Incident Management Team Response Plan (JS-70-PLN-F-00008).

To ensure workforce competence is maintained during the life of the facilities, Jadestone will ensure that all required training and inductions are completed in a timely manner and tracked using a learning management system.

Jadestone has a series of inductions and E-learning modules that must be completed by staff, contractors and visitors as detailed in Company Competency Matrices.

8.3 Monitoring, Auditing, Management of Non-conformance and Review

As required under sub-regulation 22(5), Jadestone must provide for sufficient monitoring, recording, audits, management of non-conformance and review of Jadestone's environmental performance and implementation strategy to ensure that environmental performance outcomes and standards in the EP are being met.

Environmental performance outcomes and standards as well as management controls as detailed in this EP (Sections 6 and 7 and the OPEP) are monitored and recorded as described. Ongoing monitoring activities to determine if environmental commitments as required in this EP are being met include the CMMS, inspection program, auditing and exercising of response arrangements. In particular, routine commitments

in the EP have been loaded into the CMMS that directs work activities for onshore and offshore personnel. Work activities include review of monitoring checklists, audits, inspections, maintenance and continuous improvement reviews, allowing environmental performance of the activity to be monitored. Non-conformances of EP commitments are reported, tracked and closed-out in accordance with this EP.

The collection of data from environmental performance monitoring activities forms the basis of demonstration that the commitments as listed are being met, that specified mitigation measures are in place to manage environmental risks, and that they remain working, and contribute to continually reducing risks and impacts to ALARP and acceptable levels.

8.3.1 Routine Monitoring

The purpose of monitoring and inspections is to record performance data and routinely check conformance with environmental performance standards and achievement of environmental performance outcomes defined by the EP. Routine inspection activities (desk and/or vessel based) are scheduled and records kept in the CMMS.

Emissions and discharges to the environment are monitored to assess the environmental performance of the operation on an ongoing basis. Table 8-4 details the quantitative records that are maintained for all emissions and discharges during routine or emergencies within the Operational Area as per Regulation 22(6) of the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023*.

Table 8-4: Summary of routine monitoring

Measurement	Frequency	Monitoring Strategy	Record
Ballast water discharges	Intermittently – discharge events recorded as they occur	Discharges determined from ballast water record log	Ballast water records
Volumes of the following waste types are recorded: general and putrescible waste; hazardous waste; timber/ wood; recyclables; cardboard/ paper; scrap metal; metal drums & containers; batteries (lead acid); plastic drums and containers; and oily waste/ sludge.	Vessel records volumes on manifest	Invoicing process checks vessel manifest against waste disposal records of service provider, and evidence of disposal	Manifest documents Oil Record Book Garbage Record Book
Emissions from vessel engines.	Daily	Estimated from fuel usage	Fuel bunkering records

8.3.2 Audits

An audit is a systematic examination and evaluation against defined criteria and performance indicators to determine whether activities/ processes and related results conform to planned arrangements, whether these arrangements are implemented effectively, and if they are suitable to achieve Jadestone's performance outcomes and requirements.

Environmental audits provide assurance that the systems and processes in place to deliver the EP (i.e. the implementation strategy) are suitable and effective. The Jadestone Audit Manual (JS-90-PR-G-00003) describes the planning and conduct of audit activities.

8.3.3 Non-compliances and Corrective Actions

Non-conformances from audits, inspections, incidents, regular monitoring or response testing are communicated immediately to the OIM and tracked and monitored by the HSE Manager until closed

Opportunities for improvement and corrective actions from daily operations, reviews, audits, inspections, monitoring and testing activities are documented and tracked to closure by Jadestone's action tracking system.

8.3.4 Reporting

Table 8-5 details the approach to routine environmental performance reporting to the Regulator. Reporting activities relating to reportable and recordable incidents will be as per Regulations 47, 48, 49 and 50.

An additional reporting requirement to notify NOPSEMA in the event that the monitoring system detects hydrocarbons has been included. It is noted that the details surrounding the release of hydrocarbon will be confirmed with an ROV survey and the incident then classified as a reportable and recordable incident as per Regulations 47, 48, 49 and 50.

8.4 Continuous Improvement (Operational Excellence)

The review of environmental performance includes an assessment of:

- Review of compliance with environmental performance outcomes and performance standards, and adequacy of measurement criteria;
- Function of environmental management controls relevant to reportable and/or recordable incidents;
- Monitoring data and trends;
- Results of audits and incident investigations;
- Inspection and checklist approaches; and
- Adequacy of monitoring, inspections and audits.

The results of the review and any identified improvements or recommendations will be incorporated into processes and procedures used for the operation, or the EP, to facilitate continuous improvement in environmental performance.

In the event that new information (audits, inspections, reviews etc.) suggests risks and impacts are no longer reduced to acceptable levels, or controls are no longer effective in reducing the risks and impacts to ALARP and acceptable levels, then the process for identification of further controls through a risk assessment will follow that of the risk assessment methodology for this EP (refer Section 0).

Any opportunities for improvements identified through the risk assessment (i.e. new controls adopted) will be evaluated via a Management of Change process prior to the EP, procedures or processes being modified.

Table 8-5: Summary of reporting requirements

Regulation	Requirement	Required Information	Timing	Type	Recipient
Before the Activity					
Regulation 54(1) & 55 – Notifications	NOPSEMA must be notified that the Activity is to commence.	Complete NOPSEMA's Regulation 54 Start or End of Activity Notification form for both notifications.	At least 10 days before the Activity (installation of the monitoring system) commences	Written	NOPSEMA
During the Activity					
Regulation 24(c), 47 & 48 – Reportable Incident	NOPSEMA must be notified of any reportable incidents For the purposes of Regulation 24(c), a reportable incident is defined as: • An incident relating to the Activity that has caused, or has the potential to cause, moderate to significant environmental damage • Types of reportable incidents are described in Table 9-1.	The oral notification must contain: • All material facts and circumstances concerning the reportable incident known or by reasonable search or enquiry could be found out; • Any action taken to avoid or mitigate an adverse environmental impact due to the reportable incident; and • The corrective action that has been taken, or is proposed to be taken, to stop, control or remedy the reportable incident.	As soon as practicable, and in any case not later than 2 hours after the first occurrence of a reportable incident, or if the incident was not detected at the time of the first occurrence, at the time of becoming aware of the reportable incident	Verbal	NOPSEMA
		A written record of the verbal notification must be submitted. The written record is not required to include anything that was not included in the verbal notification	As soon as practicable after the verbal notification	Written	NOPSEMA

Regulation	Requirement	Required Information	Timing	Type	Recipient
		A written report must contain: • All material facts and circumstances concerning the reportable incident known or by reasonable search or enquiry could be found out; • Any action taken to avoid or mitigate adverse environmental impact due to the reportable incident; • The corrective action that has been taken, or is proposed to be taken, to stop, control or remedy the reportable incident; and • The action that has been taken, or is proposed to be taken, to prevent a similar incident occurring in the future.	Must be submitted as soon as practicable, and in any case not later than 3 days after the first occurrence of the reportable incident unless NOPSEMA specifies otherwise.	Written	NOPSEMA
Regulation 50 – Recordable Incidents	NOPSEMA must be notified of a breach of an EPO or EPS, in the environment plan that applies to the Activity that is not a reportable incident	Complete NOPSEMA's Recordable Environmental Incident Monthly Report form via submissions@nopsema.gov.au	The report must be submitted as soon as practicable after the end of the calendar month, and in any case, not later than 15 days after the end of the calendar month. If no recordable environmental incidents have occurred during a particular month, a Nil Incident report must be submitted	Written	NOPSEMA

Regulation	Requirement	Required Information	Timing	Type	Recipient
N/a	Notify NOPSEMA in the event that the well monitoring system is triggered	Time, date and well location. Following ROV survey investigation, the incident will be classified as a reportable or recordable incident and NOPSEMA will remain informed via these regulatory processes.	Within 24 hours of Jadestone being notified of the triggered release	Written	NOPSEMA
End of Activity					
Regulation 54(2) – Notifications	NOPSEMA must be notified that the Activity is completed	Complete NOPSEMA's Regulation 54 Start or End of Activity Notification form for both notifications	Within 10 days after finishing	Written	NOPSEMA
Regulation 22(7) & 51 – Environmental Performance	NOPSEMA must be notified of the environmental performance of the Activity	Report must contain sufficient information to determine whether or not environmental performance outcomes and standards in the EP have been met	Annual report submitted within 3 months after the anniversary of the reporting period, with the period commencing on the dated Regulation 54 notification form	Written	NOPSEMA
Regulation 46 Plan ends when titleholder notifies completion	NOSPEMA must be notified that the Activity has ended and all EP obligations have been completed	Notification advising NOPSEMA of end of the Activity	Within six months of the final Regulation 54(2) notification	Written	NOPSEMA

8.4.1 Management of Change and Revisions of the Environment Plan

Regulation 39 of the *Offshore Petroleum Greenhouse Gas Storage (Environment) Regulations 2023* makes clear the following requirements in respect of a number of circumstances that may lead to the deviation of an activity from the EP, or a new activity requiring an EP.

39 Revision because of a change, or proposed change, of circumstances or operations	
New activity	
38	A titleholder may submit a revised environment plan under section 26 to include a new activity under the title (rather than submit a separate plan for the new activity).
Significant modification or new stage of an activity	
39(1)	A titleholder must submit a revised environment plan under section 26 for an activity under the title before the commencement of any significant modification or new stage of the activity that is not provided for in the environment plan as currently in force.
New or increased environmental impact or risk	
39(2)	A titleholder must submit a revised environment plan under section 26 for an activity under the title before, or as soon as practicable after, the occurrence of:
(a)	any significant new environmental impact or risk, or significant increase in an existing environmental impact or risk, of the activity that is not provided for in the environment plan in force for the activity; or
(b)	a series of new environmental impacts or risks, or a series of increases in existing environmental impacts or risks, which, taken together, amount to the occurrence of:
(i)	A significant new environmental impact or risk of the activity; or
(ii)	A significant increase in an existing environmental impact or risk of the activity;
	That is not provided for in the environment plan in force for the activity.

Jadestone's Management of Change process will determine whether a proposed change to activities triggered the requirements of Regulation 39, which may result in a revision and resubmission of an EP to NOPSEMA. This process is described in the Jadestone's Change Management Procedure (MoC) (JS-90-PR-G-00017). The procedure describes a system for identifying, tracking, responding, progressing and closing out change requests or queries raised by any party involved in Jadestone Energy activities. It also directs and instructs activity owners on the environmental regulatory requirements relating to a change in operations.

The procedure provides for proper consideration of temporary or permanent changes to activities, including an impact and risk assessment, approved and communicated to all appropriate stakeholders together with providing a record of the change. In particular, the system ensures the following:

- All changes required to critical outputs will be identified, recorded, risk assessed and approved – internally and externally as required – before being implemented;
- Processes and procedures are in place to ensure requirements for change are identified and unauthorised changes are prevented;
- All changes must be assessed to determine if the change introduces a new risk or impact or increases an existing impact or risk, as required by Regulation 39;

- The MoC is prepared internally by Jadestone personnel which includes consultation with relevant parties as necessary such as technical/ subject matter experts and external stakeholders as required;
- Only authorised and competent members of the workforce can approve changes, including relevant Technical Authorities. Technical Authorities are deemed as authorised and competent via the Technical Authority Framework (GA-60-STD-Q-00001);
- Approval of a change internal to Jadestone requires confirmation that impacts and risks have been assessed and appropriate reduction measures implemented (if required) to manage risk to ALARP and impacts to acceptable levels;
- All approved changes that affect the EP are properly documented and communicated to all relevant internal and external members of the workforce, e.g. via toolbox talk or HSE meetings and JSA; and
- An audit trail is kept of all changes and documents and drawings are updated accordingly.

MOC must be designed to meet the particular requirements of the type of change required and will include:

- Risk assessment to assess potential impacts to the receiving environment as detailed in this EP, including matters of NES and those protected under the EPBC Act;
- Strategies and actions to mitigate any adverse effects; identify opportunities offered by the change; and determine how impacted interfaces shall be managed;
- Timeframes for implementation;
- Documents (e.g. drawing, plan, program, procedure) against which change is monitored;
- Outline drawings or controlled documents affected; and
- Responsibilities for execution, review and approval of the:
    - Justification for the change,
    - Assessment of the impact and risk to environment,
    - Detailed implementation requirements,
    - Dissemination of the change, training personnel and updating of documentation.

All alterations and updates to controlled documents, including regulatory approvals, procedures or drawings must be in accordance with Document Control requirements. If the change meets any of the criteria detailed by Regulation 39, a revision/resubmission of the EP to NOPSEMA will occur.

Maintenance work, which covers the replacement of parts or equipment with identical (or equivalent specification) parts or equipment, and with no change to operating arrangements, is not subject to change control.

8.4.2 Record Keeping

This section of the EP meets Regulation 52(1) by detailing a systematic, auditable record of the results of monitoring and auditing of the environmental performance of the activities. The records retained are linked to the performance outcomes, standards and measurement criteria, and monitoring and reporting requirements.

As a minimum, Jadestone will store and maintain the records for five years, where records include:

- Written reports including monitoring, audit and review regarding environmental performance or the business management system;
- Environmental performance reports and associated documentation;

- Documentation generated through stakeholder consultation;
- Records of emissions and discharges;
- Records of calibration and maintenance; and
- Reportable and recordable incident reports.

8.5 Emergency Preparedness and Response

Under the Environment Regulations 22(8) the Implementation Strategy must contain an oil pollution emergency plan and provide for the updating of the plan containing adequate arrangements for responding to and monitoring oil pollution. These details are contained within the OPEP, which is part of this EP, and details the incident response arrangements in the event of an oil spill and should be referred to for all details.

Emergency response procedures and manuals are in place to describe how controls and consequences are mitigated. These documents are made accessible to all personnel. The relevant incident response procedures and manuals are detailed in the OPEP.

The Montara Incident Response Plan (MV-70-PLN-F-00001), Incident Management Team Response Plan (JS-70-PLN-F-00008) and associated manuals are regularly updated with the revised contact details of relevant organisations and individuals included. They are also frequently tested to determine where they can be improved. The Incident Management Team Response Plan (IMTRP) sets out the structure, organisation and activation, or trigger processes for responding to an incident as well as detailing the schedule for exercising and testing the major hazard incidents and OPEP response and preparedness. The IMTRP also includes as an appendix the Oil Spill Response Arrangements (OSRA). The OSRA sets out the initial actions, notifications and responses once the IMT has triggered an oil spill response.

The Incident Management Exercise & Testing Program (JS-70-PR-F-00001) provides more information on planning and testing cycles. As a minimum, Jadestone conducts quarterly IMT drills, an annual major oil spill exercise, six-monthly oil spill response functional workshops, as well as ad-hoc exercises to coincide with specific project campaigns. The HSE (Emergency Response) Lead maintains an IMT exercise program.

Wherever practical, the IMT exercises, including oil spill responses, may involve support from other agencies, contractors and oil & gas operators as part of resource sharing initiatives. Records of emergency exercises, including OPEP commitments are assessed against measurement criteria and recorded in Jadestone's CMMS BASSnet.

In addition, assurance actions to meet OPEP requirements such as review of Scientific Monitoring capabilities, Waste Contractors compliance and availability of oil spill response vessels and aircraft are scheduled in BASSNet or contractual obligations.

Emergency response, including oil spill arrangements, as part of the implementation strategy are reviewed every 12 months. The scope of the review will be determined by the associated trigger for review. The triggers for the review are:

- document control notification;
- any significant change in the OPEP;
- any change in the risk assessment; and
- significant findings or any requirements from after-action review of drills or incidents.

9. REPORTING

9.1 Routine Reporting

Table 9-1 details the approach to routine environmental performance reporting to the regulator. Reports will be of sufficient detail to demonstrate whether specific environmental performance outcomes and standards have been met.

9.2 Incident Reporting

Table 9-1 defines the differences between a reportable and recordable incident. It also defines reporting protocols for initial notification of a reportable incident, written reportable incident reporting and monthly recordable incident reporting. The Incident and Hazard Reporting Procedure (JS-60-PR-F-00016) incorporates reporting timeframes for incidents depending on their environmental impacts.

Table 9-1: Routine and incident reporting requirements

Requirements	Timing
Routine Reporting	
Recordable Environmental Incident Monthly Report A written report will be provided to NOPSEMA of any breaches of a performance outcome or performance standard identified in the EP and is not classed as a reportable incident (refer above). The monthly report will include the following: Circumstances and material facts concerning the incident; Actions taken to avoid or mitigate any adverse environmental impacts; Corrective action taken to prevent recurrence.	Not later than 15 days after the end of each calendar month.
Reportable Incidents: Notifications	
NOPSEMA NOPSEMA will be notified of reportable environmental incidents: i.e. any unplanned event identified as having caused or having the potential to cause moderate to significant environmental damage. The following is a list of reportable environmental incidents that could occur: • Uncontrolled release of hazardous chemicals or hydrocarbons more than 80 litres to the marine environment; • If the remote monitoring system has been triggered; • Introduction of an IMP; • Harm or mortality to an EPBC listed marine fauna; • Gaseous releases of more than 300kg (~255m^3 at Standard Ambient Temperature and Pressure); and • Any unforeseen event that has caused or has the potential to cause an impact with moderate or greater environmental consequence as outlined within this EP.	Verbal report to NOPSEMA as soon as practicable but not later than two hours of incident having been identified. As soon as practicable a written record of the verbal notification will be provided to NOPSEMA. Notifications to other regulators are described in Jadestone Energy Incident Management Team Response Plan (JS-70-PLN-F-00008)
AMSA Oil pollution incidents in Commonwealth waters must be reported to AMSA.	Within 2 hours of incident having been identified: Tel: 1800-641-792

Department of Agriculture, Water and the Environment (DAWE) DAWE will be notified of the following incidents: Harm or mortality to Commonwealth EPBC Act Listed Marine Fauna (attributable to the operations activity). Spills of hydrocarbons or environmentally hazardous chemicals more than 80 litres to the marine environment. Any unplanned event identified as having caused or having the potential to cause moderate to significant impact to a matter of NES.	Within 2 hours of incident having been identified: Tel: 1800-110-395 Tel: 02-6274-1372 compliance@environment.gov.au
Reportable Incidents: Written Reports	
NOPSEMA A written report of a reportable environmental incident will be provided to NOPSEMA and will contain: Immediate action taken to prevent further environmental damage and contain the source of the release; Arrangements for internal investigation; All material facts and circumstances concerning the reportable incident that the operator knows or is able, by reasonable search or enquiry, to find out; Immediate cause analysis; and Corrective actions taken or proposed to prevent recurrence of similar incidents with responsible party and completion date.	Written report (Part 1) to NOPSEMA is required within three (3) days. Within 7 days of submitting the written report (Part 1) to NOPSEMA, a copy of the written report will be provided to NOPTA.

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APPENDICES

APPENDIX A: RELEVANT LEGISLATION

APPENDIX B: EXISTING ENVIRONMENT WITHIN THE EMBA

APPENDIX C: STAKEHOLDER CONSULTATION DOCUMENTATION

APPENDIX D: PMST OPERATIONAL AREA (SEA EAGLE-1 AND TAHBILK-1)

APPENDIX E: PMST EMBA

APPENDIX F: HYDROCARBON IMPACT THRESHOLDS

APPENDIX G: TIMEFRAME TO RESPOND TO MINOR LEAK FROM WELLHEAD

Sea Eagle-1 and Tahbilk-1 Vessel Based Activity Environment Plan

TM-50-PLN-I-00004

Rev 3

APPENDIX A – Relevant Legislation

APPENDIX A: RELEVANT LEGISLATION

Convention on Biological Diversity (1992)

The objectives of the convention are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

United Nations Framework Convention on Climate Change (1992)

The objective of the convention is to stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous interference with the climate system. Australia ratified the convention in December 1992 and it came into force on 21 December 1993.

International Convention on Oil Pollution Preparedness, Response and Co-operation (1990)

This convention sets up a system of oil pollution contingency plans and cooperation in fighting oil spills.

Vienna Convention on the Protection of the Ozone Layer (1985) and the Montreal Protocol; on Substances that Deplete the Ozone Layer (1987)

The Convention (ratified by Australia in 1987) and the Protocol (ratified in 1989) concern the phasing out of ozone depleting substances.

United Nations Convention on the Law of the Sea (UNCLOS) (1982)

Part XII of the convention sets up a general legal framework for marine environment protection. The convention imposes obligations on State Parties to prevent, reduce and control marine pollution from the various major pollution sources, including pollution from land, from the atmosphere, from vessels and from dumping (Articles 207 to 212). Subsequent articles provide a regime for the enforcement of national marine pollution laws in the many different situations that can arise. Australia signed the agreement relating to the implementation of Part XI of the Convention in 1982, and UNCLOS in 1994.

Bilateral Agreements on the Protection of Migratory Birds

Australia has negotiated bilateral agreements with Japan (Japan-Australia Migratory Birds Agreement [JAMBA], 1974), China (China-Australia Migratory Birds Agreement [CAMBA], 1986) and the Republic of Korea (Republic of Korea – Australia Migratory Birds Agreement [ROKAMBA], 2007) to protect species of migratory birds with international ranges.

In November 2006, the East Asian-Australasian Flyway Partnership (Flyway Partnership) was launched in order to recognise and conserve migratory waterbirds in the East Asian – Australasian Flyway for the benefit of people and biodiversity.

Convention on the Conservation of Migratory Species of Wild Animals (CMS or Bonn Convention) (1979)

This Convention was concluded in 1979 and came into force on 1 November 1983. The Convention arose from a recommendation of the United Nations Conference on the Human Environment (Stockholm, 1972), and aims to conserve terrestrial, marine and avian species over the whole of their migratory range. It commits “Range States” to take action to conserve migratory species, especially those under threat. It is an umbrella agreement under which subsidiary regional agreements are established.

International Convention for the Protection of Pollution from Ships (1973) and Protocol (1978)

This Convention and Protocol (together known as MARPOL) build on earlier conventions in the same area. MARPOL is concerned with operational discharges of pollutants from ships. It contains five Annexes, dealing respectively with oil, noxious liquid substances, harmful packaged substances, sewage and garbage. Detailed rules are laid out as to the extent to which (if at all) such substances can be released in different sea areas. The legislation giving effect to MARPOL in Australia is the Protection of the Sea (Prevention of Pollution from Ships) Act 1983, the Navigation Act 2012 and several Parts of Marine Orders made under this legislation.

Australian and New Zealand guidelines for fresh and marine water quality (ANZECC/ARMCANZ 2018)

These guidelines provide a framework for water resource management and state specific water quality guidelines for environmental values, and the context within which they should be applied.

International Convention for the Prevention of Pollution from Ships, 1973/1978 (MARPOL 73/78)

This convention is designed to reduce pollution of the seas, including dumping, oil and exhaust pollution. MARPOL 73/78 currently includes six technical annexes. Special areas with strict controls on operational discharges are included in most annexes.

International Convention on the Control of Harmful Anti-fouling Systems

This convention prohibits the use of harmful organotins in anti-fouling paints used on ships, and establishes a mechanism to prevent the potential future use of other harmful substances in anti-fouling systems.

International Convention for the Safety of Life at Sea (SOLAS) 1974

In the event of an offshore emergency event that endangers the life of personnel, the International Convention for the Safety of Life at Sea (SOLAS) 1974 may take precedence over environmental management.

Bonn Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil and other harmful substances (Bonn Agreement)

The Bonn Agreement is the mechanism by which the North Sea states, and the European Union (the Contracting Parties), work together to help each other in combating pollution in the North Sea area from maritime disasters and chronic pollution from ships and offshore installations; and to carry out surveillance as an aid to detecting and combating pollution at sea.

The Bonn Agreement Oil Appearance Code (BAOAC) may be used during spill response activities.

London (Dumping) Convention (1972)

Dumping at sea is regulated by the convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter 1972 (the 'London Convention'). Article 4 provides a general prohibition on dumping of wastes except as specified in the Convention. The convention has annexed to it two lists of substances, the 'black list' of substances which may not be dumped at all, and the 'grey list' of substances which may only be dumped under a specific permit.

International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (1969)

The convention gives States Parties powers to intervene on ships on the high seas when their coastlines are threatened by an oil spill from that ship.

International Convention on Civil Liability for Oil Pollution Damage (1969)

The convention and the associated International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971 set up a system of compulsory insurance and strict liability up to a certain figure for damages suffered as a result of an oil spill accident.

Offshore Petroleum and Greenhouse Gas Storage Act 2006

The *OPGGSA 2006* (OPGGSA) entered into force in 2008, superseding and repealing the previous offshore petroleum legislation – the *Offshore Petroleum Act 2006* (OPA) and the *Petroleum (Submerged Lands) Act 1967* (PSLA).

Facilities located entirely in Commonwealth offshore waters are controlled by the Commonwealth OPGGSA and its regulations, including but not limited to the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (OPGGS (E) Regulations).

The Act, and its regulations, is currently administered by the Joint Authority, which consists of the Commonwealth Minister for Resources and Energy and the State Minister for Mines and Petroleum. The WA Minister for Mines and Petroleum acts as a Designated Authority and is advised by the DMP whilst the Commonwealth Minister for Energy and Resources is advised by the Commonwealth Department of Resources, Energy and Tourism (DRET).

Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (OPGGS (E) Regulations)

Under the OPGGS (E) Regulations an EP is required for proposals under Commonwealth jurisdiction, comprising a description of the environmental effects and risks of the project, and proposed mitigation measures to reduce these risks.

The EP must be submitted to, and accepted by the Designated Authority (DA). The DA for Commonwealth waters adjacent to Western Australian state waters and out to the Australian Exclusive Economic Zone (EEZ) at 200 nm is NOPSEMA, who administers the regulations.

Environment Protection and Biodiversity Conservation Act 1999

This Act came into force in July 2000 replacing five existing Commonwealth Acts (*Environmental Protection (Impact of Proposals) Act 1974*, *World Heritage Properties Conservation Act 1983*, *National Parks and Wildlife Conservation Act 1975*, *Whale Protection Act 1980*; and *Endangered Species Protection Act 1992*).

The *Environment Protection and Biodiversity Conservation Act* (EPBC) provides for the protection of the environment, especially those aspects of the environment that are matters of National Environmental Significance (NES); and promotes ecologically sustainable development through the conservation and ecologically sustainable use of natural resources. Under this legislation all activities that will, or have the potential to, affect matters of NES are prohibited except; when undertaken in accordance with approval by the Minister for Environment, or when approved through a Bilateral Agreement with a State or Territory, or when approved through a process accredited by the Minister.

Matters of “National Environmental Significance” are:

World Heritage Properties;

National Heritage Places;

Wetlands of International Importance;

Listed Threatened Species and Communities;

Listed Migratory Species;

Nuclear Actions;

Commonwealth Marine Areas; and

Great Barrier Reef Marine Park.

Historic Shipwrecks Act 1976

This Act protects shipwrecks, which have lain in Territorial waters for 75 years or more. It is an offence to interfere with any shipwreck covered by the Act.

Navigation Act 2012

This Act requires that ships carrying oil and chemical tankers conform to relevant Regulations in Annex I of the MARPOL convention for the Prevention of Pollution from Ships. Marine Orders are a body of delegated legislation made pursuant to the Navigation Act 2012 and the Protection of the Sea (Prevention of Pollution from Ships) Act 1983.

Protection of the Sea (Prevention of Pollution from Ships) Act 1983

This Act gives effect to the International Convention for the Prevention of Pollution from Ships 1973/78 (MARPOL 73/78/97 and Annexes). It provides for penalties of up to AUD 10 million for not complying with the MARPOL. Marine Orders are a body of delegated legislation made pursuant to the Navigation Act 2012 and the Protection of the Sea (Prevention of Pollution from Ships) Act 1983.

Biosecurity Act 2015

The Act and its supporting legislation are the primary legislative means for managing risk of pests and diseases entering into Australian territory and causing harm to animal, plant and human health, the environment and/or the economy.

National Greenhouse and Energy Reporting Act 2007

This Act provides for the National Greenhouse and Energy Reporting (NGER) Scheme to account for and manage (via the safeguard mechanism) greenhouse gas emissions and energy consumption and production.

Marine Orders

Marine Orders Part 91 implements Part II of the POPS Act, Chapter 4 of the Navigation Act 2012, and Annex I of MARPOL 73/78 (oil pollution).

The Marine Orders provide standards for the discharge of certain oily mixtures or oily residues and associated equipment and include duties to manage bunkering and transfers of oil between vessels; to maintain Oil Record Books and Shipboard Oil Pollution Emergency Plans (SOPEPs); and to report oil pollution.

Marine Orders Part 93 – Marine pollution prevention — to noxious liquid substances; and Marine Orders Part 94 – Marine pollution prevention — packaged harmful substances

The requirements of Marine Orders Part 93 and Marine Orders Part 94 and the POPS Act relating to noxious liquid substances and packaged harmful substances do not apply to the activity on the basis that:

the activity does not involve ‘chemical tankers’ or ‘NLS tankers’ that carry a cargo of noxious liquid substances in bulk, as defined by Annex II of MARPOL 73/78.

Packaged harmful substances, as defined by Annex III of MARPOL 73/78,

Marine Orders Part 96 – Marine pollution prevention — sewage

Marine Orders Part 96 – Marine pollution prevention — sewage implements Part IIIB of the POPS Act, Chapter 4 of the Navigation Act 2012, and Annex IV of MARPOL 73/78 (sewage).

The Marine Orders include requirements for the treatment, storage and discharge of sewage and associated sewage systems, and for an International Sewage Pollution Prevention (ISPP) certificate to be maintained on board.

Marine Orders Part 95 – Marine pollution prevention — garbage

Marine Orders Part 95 – Marine pollution prevention — garbage implements Part IIIC of the POPS Act, Chapter 4 of the Navigation Act 2012, and Annex V of MARPOL 73/78 (garbage).

The Marine Orders provide for the discharge of certain types of garbage at sea, waste storage, waste incineration, and the comminution and discharge of food waste. They also set out requirements for garbage management and recording.

Marine Orders Part 97 – Marine pollution prevention — air pollution

Marine Orders Part 97 – Marine pollution prevention — air pollution implements Part IIID of the POPS Act, Chapter 4 of the Navigation Act 2012, and Annex VI of MARPOL 73/78 (air pollution).

The Marine Orders set requirements for marine diesel engines and associated emissions, waste incineration on board vessels, engine fuel quality, and equipment and systems containing ozone-depleting substances (ODS).

Sea Eagle-1 and Tahbilk-1 Vessel Based Activity Environment Plan

TM-50-PLN-I-00004

Rev 3

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1. EXISTING ENVIRONMENT FOR THE EMBA

The Environment that May Be Affected (EMBA) is the geographical area encompassing the environment that has the potential to be affected by the unplanned events associated with the described activities (Section 2 of the EP). The maximum extent of an oil spill due to a release of diesel from a vessel collision has been used to inform the oil spill response planning and oil spill risk assessment (as per NOPSEMA Guidance Environment Bulletin A652993 Oil Spill Modelling April 2019) (refer Figure 1-1).

See Section 3 of the EP for the detailed description of the Operational Area, including details of Threatened and Migratory animal's distribution, migratory movements, preferred habitat and likely presence within the Operational Area. For other receptors potentially exposed to an unplanned event such as release of diesel from a vessel collision and 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 (Appendix D) 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

The EMBA presented is based on the low level exposure of hydrocarbons (socio-economic EMBA) on or in the water surface and represents the largest extent of an oil spill due to the worst case scenario.

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

This description of the environment within the EMBA addresses OPGGS(E) Regulation 21(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.

Within the EMBA lies the Operational Area containing the Montara wellhead platform, Tahbilk and Sea Eagle. Distances referenced throughout this report have been measured from the Montara Field, which lies approximately 4.4 km from Tahbilk and 18 km from Sea Eagle.

1.2 Marine Regional setting

Australia's offshore waters have been divided into six marine regions to facilitate their management by the Australian Government under the EPBC Act. The EMBA is located within the North West Marine Region (NWMR) (SEWPaC 2012a). The objectives of the 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 of the marine regions 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.

1.2.1 North West Marine Region

The North West Marine Region (NWMR) encompasses Commonwealth waters from the Western Australian/ 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, 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 wellhead platforms (WHP). A number of key ecological features (KEFs) have been identified in the EMBA (Section 4.1.8). 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, approximately 700 km from the operational area.

1.2.2 Provinces of the NWMR

The NWMR is further divided into Integrated Marine and Coastal Regionalisation of Australia (IMCRA) provincial bioregions, with those occurring within the EMBA summarised in Table 1-1 and shown in Figure 1-1.

Table 1-1 Description of the IMCRA Provincial Bioregions within the EMBA

Provincial Bioregion	Description
Timor Province	The Timor Province covers an area of 24,040 km^2 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 (ITF). 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.

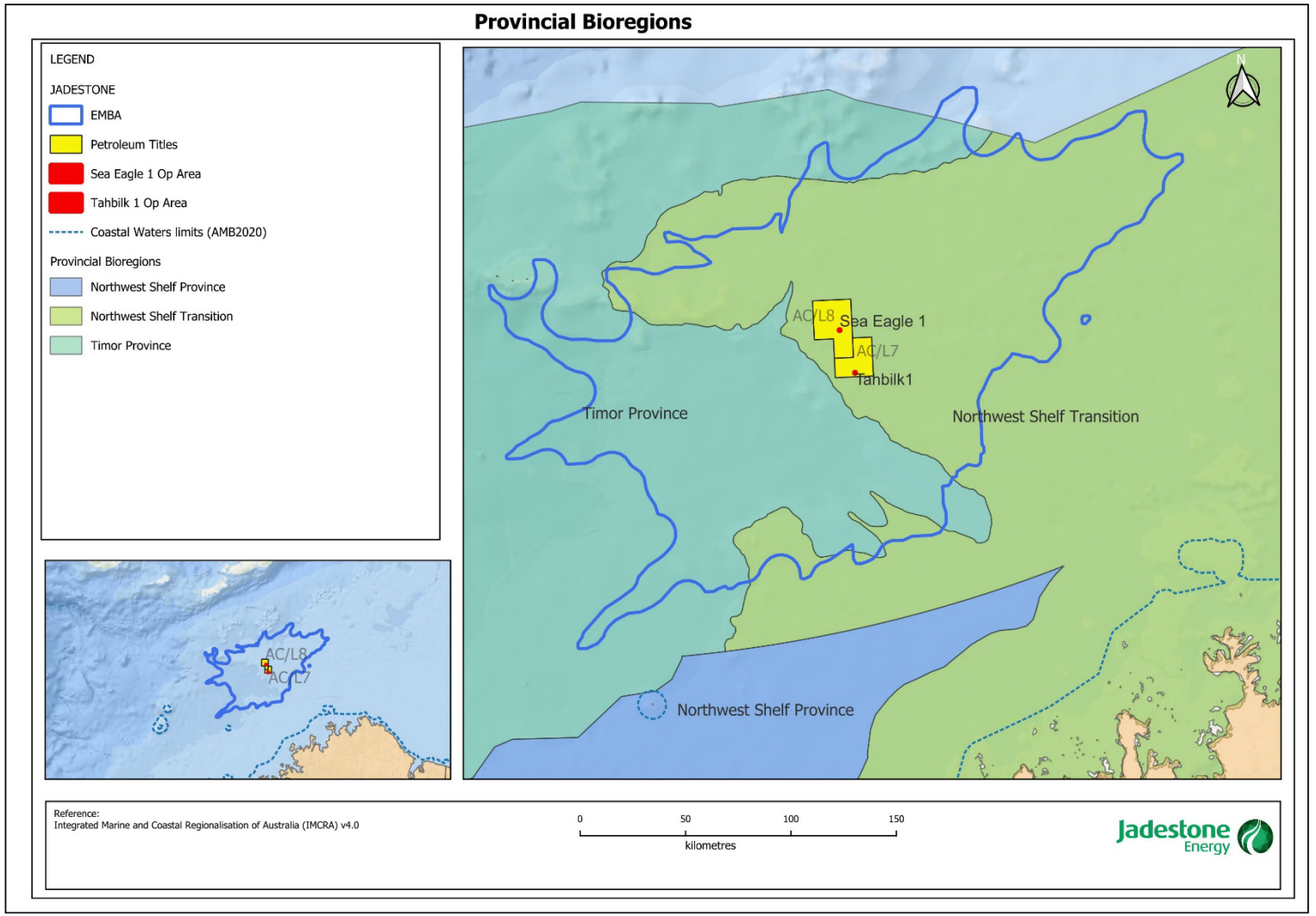


Figure 1-1 Provincial Bioregions relevant to the EMBA

2. PHYSICAL ENVIRONMENT

2.1 Climate

The Operational Area experiences a monsoonal climate with two predominant seasons including a hot wet summer season, October to March and a cool dry winter season April to September, which are referred to as the northwest and southeast monsoons, respectively. The climate is influenced by two major atmospheric pressure systems: the subtropical ridge of high-pressure cells referred to as highs or anticyclones, and a broad tropical low-pressure region called the monsoon trough (RPS Metocean 2008). These two major systems create three discrete weather phenomena that influence conditions within the Operational Area and EMBA:

- The north-west monsoon season occurs from October to March, or wet season, and is characterised by north-west to south-west winds. The monsoon season is generally associated with broad areas of cloud and rain including periods of widespread heavy rainfall;
- Steady north-east to south-east winds (south-east trade winds) from April to September (dry season) caused by development and intensification of anticyclones over south-western Australia, bring predominantly fine conditions with low rainfall in most areas; and
- Cyclonic activity occurs between November to April and the area will experience on average three cyclones a year. Cyclones can bring very large amounts of rain, with strong swell and rough seas common during these events.

In general, January to February and May to July are the windiest months however, peak wind velocities are associated with tropical cyclones that occur during the wet season. Cyclone probability is estimated to be one per annum within 180 km of the site and four per annum within 1,100 km of the site.

Mean annual rainfall in the region is 1,770 mm. Mean air temperature ranges from 24.9ºC in July and 29.6ºC in December. The closest meteorological station to the Montara field is located at Troughton Island approximately 630 km south-west of the Operational Area (Bureau of Meteorology (BoM) 2012) (Table 2-1).

Table 2-1 Meteorological conditions representative of the Montara Field (Troughton Island)

Month	Mean Monthly Maximum Temperature (Cº)	Mean Monthly Minimum Temperature (Cº)	Mean Rainfall (mm)	Mean Relative Humidity (%)
January	31.8	26.3	273.0	77
February	31.4	26.1	137.9	78
March	31.9	26.4	145.3	74
April	32.7	26.8	31.2	64
May	31.1	25.3	40.5	58
June	28.9	23.2	7.6	56
July	28.1	22.1	2.8	58
August	28.8	22.5	0.6	62
September	30.2	24.5	0.3	69
October	31.7	26.3	2.9	69

Month	Mean Monthly Maximum Temperature (Cº)	Mean Monthly Minimum Temperature (Cº)	Mean Rainfall (mm)	Mean Relative Humidity (%)
November	32.9	27.4	9.4	69
December	32.9	27.3	120.1	69
Annual	31.0	25.3	828.9	67

2.2 Oceanography (Tides and Currents)

Broad scale oceanography in the north-west Australian offshore area is complex, with major surface currents influencing the Region, including the Indonesian Throughflow, the Leeuwin Current, the South Equatorial Current and the Eastern Gyral Current (Figure 2-1).

The oceanographic regime of the north west Australian offshore area is strongly influenced by the Indonesian Through Flow (ITF) which transports warm, low salinity, oligotrophic waters through a complex system of currents, linking the Pacific and Indian Ocean via the Indonesian Archipelago (Department of State Development (DSD) 2010). The strength of the ITF fluctuates seasonally and reaches maximum strength during the south-east monsoon (May to September) and weakens during the north-west monsoon.

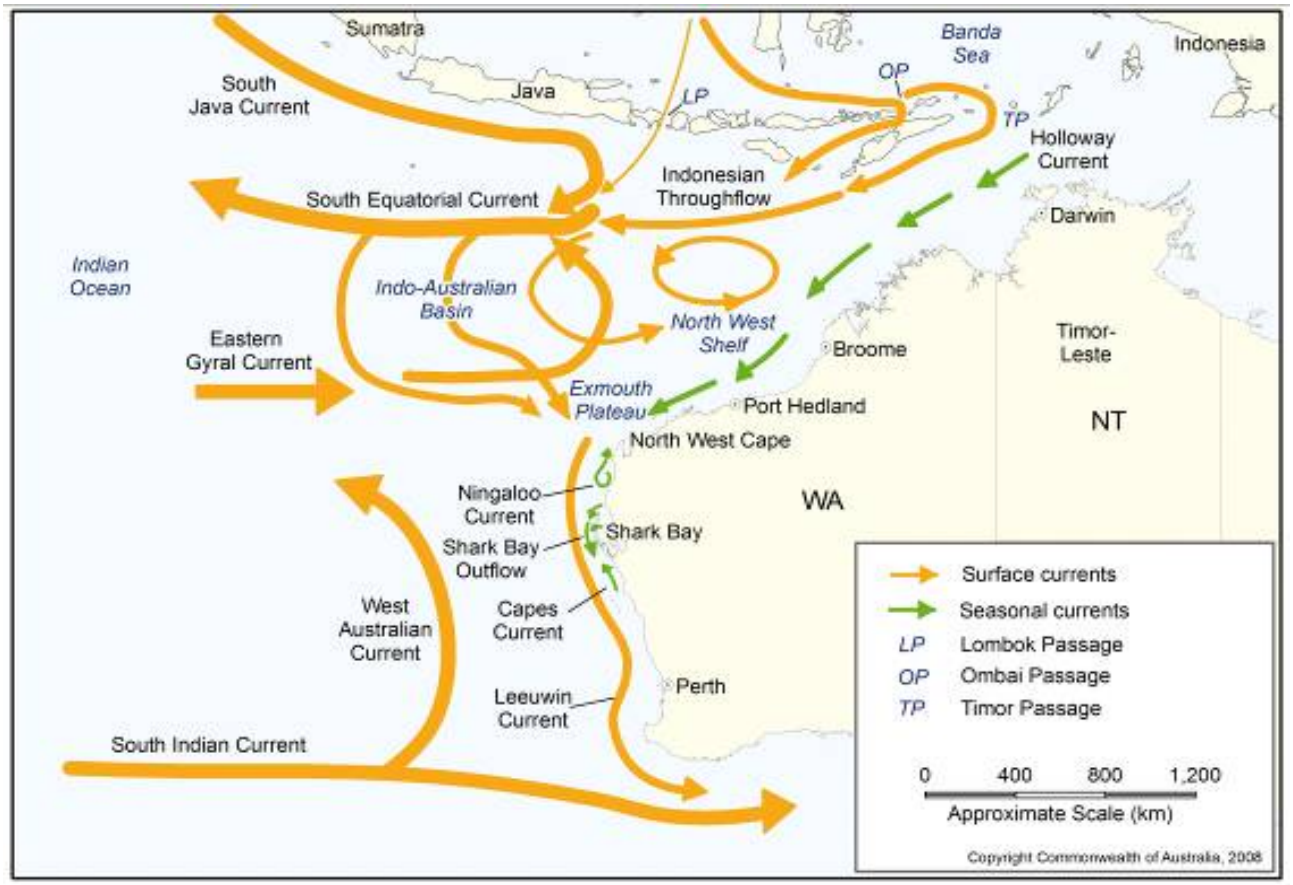
Currents in the Kimberley region are also generated by several more localised factors, including tidal forcing, local wind forcing, inertial oscillations, shelf waves, seiche and trapped waves. Studies undertaken in the vicinity of Scott Reef and Seringapatam Reef suggest that the ITF does not directly influence these systems, but it is the eddies that peel off the main ITF current and travel along the shelf-break that have a greater influence on the reefs. In general, the tidal regime and wind forcing are the major contributors to local currents in the area. The currents in the Operational Area and the EMBA are influenced by the semi-diurnal tides that have four direction reversals per day. Both the semidiurnal and diurnal tides appear to travel north-eastwards in the deep water leading to the Timor Trough prior to propagation eastwards and southwards across the wide continental shelf. The NWMR experiences some of the largest tides along a coastline adjoining an open ocean in the world.

In the eastern section of the EMBA, the area is influenced primarily by strong diurnal tidal flows and less by ocean currents. The Joseph Bonaparte Gulf is subject to the highest tidal range in the region (up to 7–8 m).

Wind driven currents from monsoons and cyclones and drift currents (ITF) are likely to prevail during neap tides or during periods of strong influence when one of the current reversals may be suppressed. Maximum tidal range is 5.7 m and tidal currents flood to the southeast and ebb to the northwest and under normal conditions (i.e. no storms), maximum recorded current speed at the surface is 0.95 m/s, mainly due to the tide. Current speeds decrease with depth below the surface. The strength and direction of tidal current flow is also strongly influenced by local bathymetry.

Wind induced currents result from local wind forcing at the surface and are most pronounced during cyclones with development of transient oscillations known as inertial currents following the passage of cyclones. Wind driven surface currents and their direction are generated by prevailing seasonal winds from the west in summer and from the east and south east during winter. The following current data has been estimated for one in 50-year storm conditions:

- Surface currents = 2 m/s;
- Mid depth currents = 1 m/s; and
- Seafloor currents = 0.67 m/s.



Source: DEWHA (2008)

Figure 2-1 Key ocean currents influencing Western Australia

2.3 Waves

Surface waves and sea swell in the region can vary widely in direction depending on wind direction, locations of major storms and local bathymetric effects such as the shelf break or proximity to islands such as Ashmore Reef. Waves are subject to the following key influences:

- Locally generated wind waves, seas: generally, from west during wet season and from the east during the dry season; and
- Remotely generated swells: South to south westerly swells persist from storms in the southern Indian Ocean and occasional, low amplitude waves up to 1 m originate from earthquakes in the Sunda Trench, between Australia and Indonesia.

In general, the maximum and mean sea swells are larger in winter than summer as a result of the strong easterly wind-generated seas and larger winter swell from the Southern and Indian Oceans. Occasional monsoonal storms and cyclones can result in much larger waves and swell. Extreme winds associated with cyclones can generate waves up to 21 m in height from any direction (RPS Metocean 2008).

Significant wave heights are experienced in the Montara field are as follows:

- Greater than 2 m, 7.7% of the time; and
- Greater than 4 m, 0.4% of the time.

The following wave data has been estimated for one in 50-year storm conditions as:

- Maximum wave height = 16.1 m;
- Significant wave height = 8.6 m; and
- Peak wave period = 11.4 seconds.

2.4 Temperature, Salinity and Turbidity

Seawater temperature in the region generally ranges from 25ºC to 31ºC at the surface and 22ºC to 25ºC at the seafloor. The sub-tropical water temperatures are largely influenced by the ITF and a highly pronounced thermocline, which is controlled by the ITF (Brewer et al. 2007).

Water quality monitoring at the Montara Field found surface water temperatures ranged from 28.0ºC to 28.7ºC, with a slight reduction of <1ºC at 20 m depth. Salinity of surface waters was consistently around 33.9 PSU, with low variability (Jacobs 2017).

Turbidity in the surface waters (0.5 m to 23 m depth) near the Montara Field are typically low (<0.2 NTU; Jacobs 2017).

2.5 Bathymetry and Seafloor Geology

Bathymetry of the region is broadly categorised into three distinct zones based on water depth and geometric features. The three zones are (Baker et al. 2008, Heap and Harris 2008):

- Continental shelf;
- Continental slope; and
- Abyssal plain.

The inner continental shelf in the northwest region extends from the coast to approximately 30 m water depth and the middle continental shelf lies between 30 m and 200 m. The outer continental shelf and slope region descends from approximately 200 m water depth. The slope continues to descend over hundreds of kilometres until reaching the almost flat i.e. a less than 1:1,000 gradient, abyssal plain at water depths of approximately 4,000 m. The continental slope is steepest along the western flank of Scott Reef where a steep drop occurs. These steep slopes are incised by erosional gullies and canyons.

The shallow geology of the Operational Area is interpreted as a thin, discontinuous layer of unconsolidated surficial sediment overlying a variably consolidated calcarenite sequence. The thickness of unconsolidated sediment varies across the site and ranges from being very thin or absent.

Geophysical interpretation and results from seabed sampling indicate that the unconsolidated sediments are fine to coarse carbonate sands. The sediments appear to be coarser closer to areas of significant relief and at the base of shallow depressions. Sub-bottom profilers did not achieve significant penetration into the calcarenite material, indicating that the upper surface of the calcarenite is relatively hard.

2.5.1 Sediment Quality

Sediment quality sampling undertaken near the Montara Field found that concentrations of metals, metalloids, hydrocarbons and phenolic compounds in sediment samples were either below the laboratory limit of reporting (LOR) and/or the ANZECC/ARMCANZ Sediment Quality Guidelines detailed in Simpson et al. (2013) (Jacobs 2017).

2.5.2 Sediment Particle Size Distribution

The particle size distributions (PSD) of sediments sampled near the Montara Field were dominated by fine and coarse sands, with very little clay (Jacobs 2017).

3. BIOLOGICAL ENVIRONMENT – SPECIES AND COMMUNITIES' DESCRIPTIONS

3.1 Benthic habitats and communities

Regionally, the seabed generally comprises a relatively flat and featureless habitat, although numerous seamounts 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; Moore et al 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, nemerteans (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 3-1. Key locations for types of benthic communities are shown in Table 3-2, noting that the EMBA does not contact all the areas identified in these bioregions.

Table 3-1 Benthic habitat windows of sensitivities

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

3.2 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/day 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 (Moore 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 (Moore 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 spill 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).

3.3 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 kilometres (10 to 15 km^2) 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).

Table 3-2 Key locations of benthic habitat in the provincial bioregions of the EMBA

Aspect	Timor Province	Northwest Shelf Transition
Coral	Ashmore Reef, Cartier Island, Hibernia, Scott and Seringapatam Reef, shoals and banks of the Sahul Shelf	Big Bank Shoals
Seagrasses	Ashmore Reef, Cartier Island, Scott Reef, Seringapatam reefs	Darwin Coast, Tiwi Islands
Macroalgae	Ashmore Reef, Cartier Island, Scott Reef, Seringapatam Reef, shoals and banks of the Sahul Shelf, Barracouta Shoal	Big Bank Shoals
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	Big Bank Shoals, Van Diemen Rise

3.4 Shoreline Habitats

A wide variety of shoreline habitats are present within the vicinity of the EMBA. Some habitat aspects within Timor Province and Northwest Shelf Transition may be present in the EMBA. Key locations for shoreline habitats are shown in Table 3-3.

Table 3-3 Location of key shoreline habitats

Aspect	Timor Province	Northwest Shelf Transition
Mangroves	Not present	Darwin Coast, Tiwi Islands, Joseph Bonaparte Gulf, Kakadu
Intertidal sand/mud flats	Ashmore Reef	Darwin Coast, Joseph Bonaparte Gulf, Kakadu
Intertidal platforms	Ashmore Reef, Scott Reef, Cartier Island	Darwin Coast, Joseph Bonaparte Gulf
Sandy beaches	Ashmore Reef, Sandy Islet (Scott Reef)	Darwin Coast
Rocky shorelines	Not present	Present but no significant areas

3.5 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 mm. 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). Zooplankton rely on phytoplankton as food and are subject to similar seasonality. Key windows of sensitivity for plankton is shown in Table 3-4.

Table 3-4 Plankton windows of sensitivity

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

4. CONSERVATION VALUES AND SENSITIVITIES

4.1 Protected Species

The PMST search of the EMBA (Appendix D) identified 21 Listed Threatened Species (LTS) and 35 Listed Migratory Species (LMS).

The Listed Threatened Species included:

- 3 species of mammals;
- 9 species of reptiles;
- 6 shark species; and,
- 13 avifauna species.

The Listed Migratory species (LMS) included:

- 5 Migratory Marine avifauna;
- 6 Migratory Wetland avifauna; and,
- 24 Migratory Marine species.

The relevant sections of this Appendix discuss the likelihood of these species and their biologically important areas occurring within the EMBA. Those species that have been identified as likely to be present in the EMBA are detailed in the sections below.

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 are described below and in Section 3 of the EP such as:

- Recovery plans
- Conservation advice; or
- Threat abatement plan for the impacts of marine debris on vertebrate marine life (DoEE 2018a).

The requirements of the species recovery plans and conservation advices are considered to identify any requirements that may be applicable to the risk assessment in the event of an unplanned hydrocarbon spill.

4.1.1 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.

A BIA for whale sharks is located in northern WA (Figure 4-1), offshore of the Pilbara and Kimberley coastline, and broadly follows the 200 m isobath (DoE, 2023f). The BIA is listed as a foraging habitat, however the Conservation Advice (DoE, 2015b) for this species indicates this BIA represents a migration corridor rather than significant foraging habitat, consistent with tagging studies. Wilson et al. (2006) recorded six whale sharks departing Ningaloo Reef and traveling north-east into the Indian Ocean. Meekan and Radford (2010) showed that whale sharks migrated up the coast from Ningaloo Reef and individually dispersed over a broad area; either north-west into the open Indian Ocean, northward towards Sumatra and Java, or north-east towards the Timor Sea; and Thomson et al (2021) more recently recorded whale sharks tagged in Ningaloo Reef traveling to the NWS. Due to their widespread distribution, highly migratory whale sharks may occur in low numbers within the EMBA.

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). No great white shark BIAs are intersected by the Operational area or EMBA**.** Given a preference for cooler, southern waters inhabited by seals and sea lions, great white sharks are considered unlikely to be encountered in the EMBA.

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 unlikely that the species will be encountered in the Operational Area or 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 is known to occur 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 predominantly around the southwest coast of WA, but has been recorded on the North West Shelf (DoE 2014d; Pogonoski et al. 2002). It is believed that the east and west coast populations

do not interact and ongoing research is likely to confirm that the populations are genetically different (Last & 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) and may be found within the EMBA.

Freshwater/Largetooth Sawfish (Endangered/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).

No BIAs for the freshwater sawfish are intersected by the Operational Area and based on the distribution, and preferred habitat of the species, it is considered unlikely that freshwater sawfishes will be found at the Operational Area. 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).

No BIAs for the green sawfish are intersected by the Operational Area and based on the offshore, deeper-water activity location, and the species' preference for turbid, inshore water, it is unlikely green sawfishes will be encountered in the Operational Area. 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 migrate through the Operational Area and may be found within the 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). Based on the species' habitat preferences it is unlikely that the reef manta ray will be encountered in the Operational Area, however given the EMBA overlaps 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). Based on the species' habitat preferences it is unlikely that the reef manta ray will be encountered in the Operational Area, however 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)

Narrow sawfishes (*Anoxypristis cuspidata*) are bentho-pelagic inhabiting estuarine, inshore and offshore waters to at least 40 m depth (IUCN, 2024). Inshore and estuarine waters are critical habitats for juveniles and pupping females, while adults occur predominantly offshore (IUCN, 2024). 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.

No BIAs for the narrow sawfish are intersected by the Operational Area and based on the species' habitat preference it is highly unlikely to be found within the Operational Area, although may be encountered within the EMBA.

Oceanic Whitetip Shark (Migratory)

The oceanic whitetip shark (*Carcharhinus longimanus*) is widespread throughout tropical and subtropical waters of the world (30° N to 35° S) (IUCN 2020). They are an oceanic and pelagic species that regularly occurs in waters of 18 to 28°C, usually >20°C (IUCN 2020). Within Australian waters, they are found from Cape Leeuwin (Western Australia) through parts of the Northern Territory, down the east coast of Queensland and New South Wales to Sydney (Last and Stevens 2009). They are usually found in surface waters, though can reach depths of >180 m (Castro et al. 1999). They have occasionally been recorded inshore but are more typically found offshore or around oceanic islands and areas with narrow continental shelves (Fourmanoir 1961, Last and Stevens 1994). Based on this offshore habitat preference, it is possible that the species may be encountered within the Operational Area and the EMBA.

Scalloped Hammerhead (Conservation Dependant)

The scalloped hammerhead has a circum-global distribution in tropical and sub-tropical waters. Within Australian waters the scalloped hammerhead extends from New South Wales (approximately from Wollongong, where it is less abundant), around the north of the continent and then south into

Western Australia to approximately Geographe Bay, though it is rarely recorded south of the Houtman Abrolhos Islands. (TSSC, 2024).

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 4-1 Fish, Shark and Ray windows of sensitivity

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

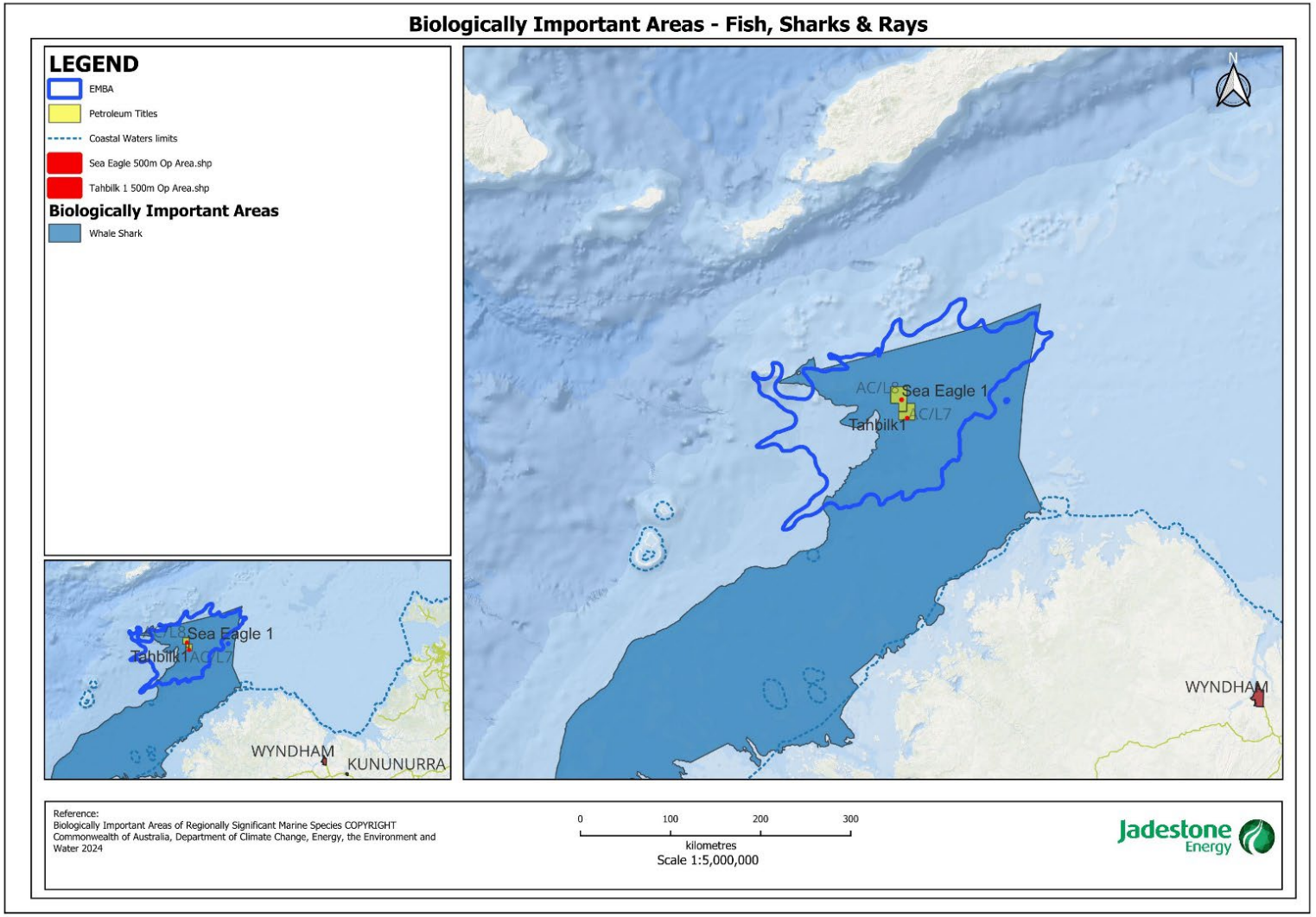


Figure 4-1 Fish, Sharks and Rays BIAs

4.1.2 Marine Reptiles

A search of the EPBC Act Protected Matters database identified nine species of marine reptiles (6 species of turtles) that may occur in, or have habitat within the EMBA.

Marine turtles are oceanic species, except during nesting seasons where they come ashore to lay eggs. Marine turtles utilise reefs, soft-sediment habitats, seagrass and algal meadows as feeding areas, depending on species, and nest above the high-water mark on sandy beaches and islets within their geographical ranges. The nesting periods are species-dependent, although generally occur between September and March, peaking in December (Pendoley 2005). Hatchlings appear between January and May and immediately leave the shore, moving into open ocean environments for a number of years before returning to inshore areas.

Marine turtles have been observed in the vicinity of the Operational Area. Surveys conducted in response to the Montara oil spill in 2009 recorded a total of 25 individual turtles in open water. Two species were confidently identified; loggerhead and green turtles (Watson et al. 2009). Land based surveys recorded green and hawksbill turtle tracks on the islands associated with Ashmore Reef (Watson et al. 2009).

The Operational Area does not intersect with any marine turtle BIAs or critical habitat for the survival of marine turtles. The Operational Area is approximately 106 km to the nearest nesting site at Cartier Island.

The EMBA intersects with a number of BIAs for marine reptiles in the region (Figure 4-2). These are discussed in further detail below for each species. BIAs for turtle species in the EMBA include the following locations: Ashmore Reef, Cartier Island, and Sahul Shelf. These locations support marine turtle foraging, mating nesting and internesting areas with the windows of sensitivity shown in Table 4-2. The EMBA overlaps with green turtle habitat critical for the survival of the species (Figure 4-3)

Table 4-2 Marine Reptile windows of sensitivity

Key	Peak times											
	January	February	March	April	May	June	July	August	September	October	November	December
Marine Reptiles												
Flatback Turtle: Nesting												
Green Turtle: Nesting (Ashmore and Cartier)												
Hawksbill Turtle: Nesting												
Leatherback Turtle: Nesting												
Loggerhead Turtle: Nesting												
Olive Ridley Turtle: Nesting												

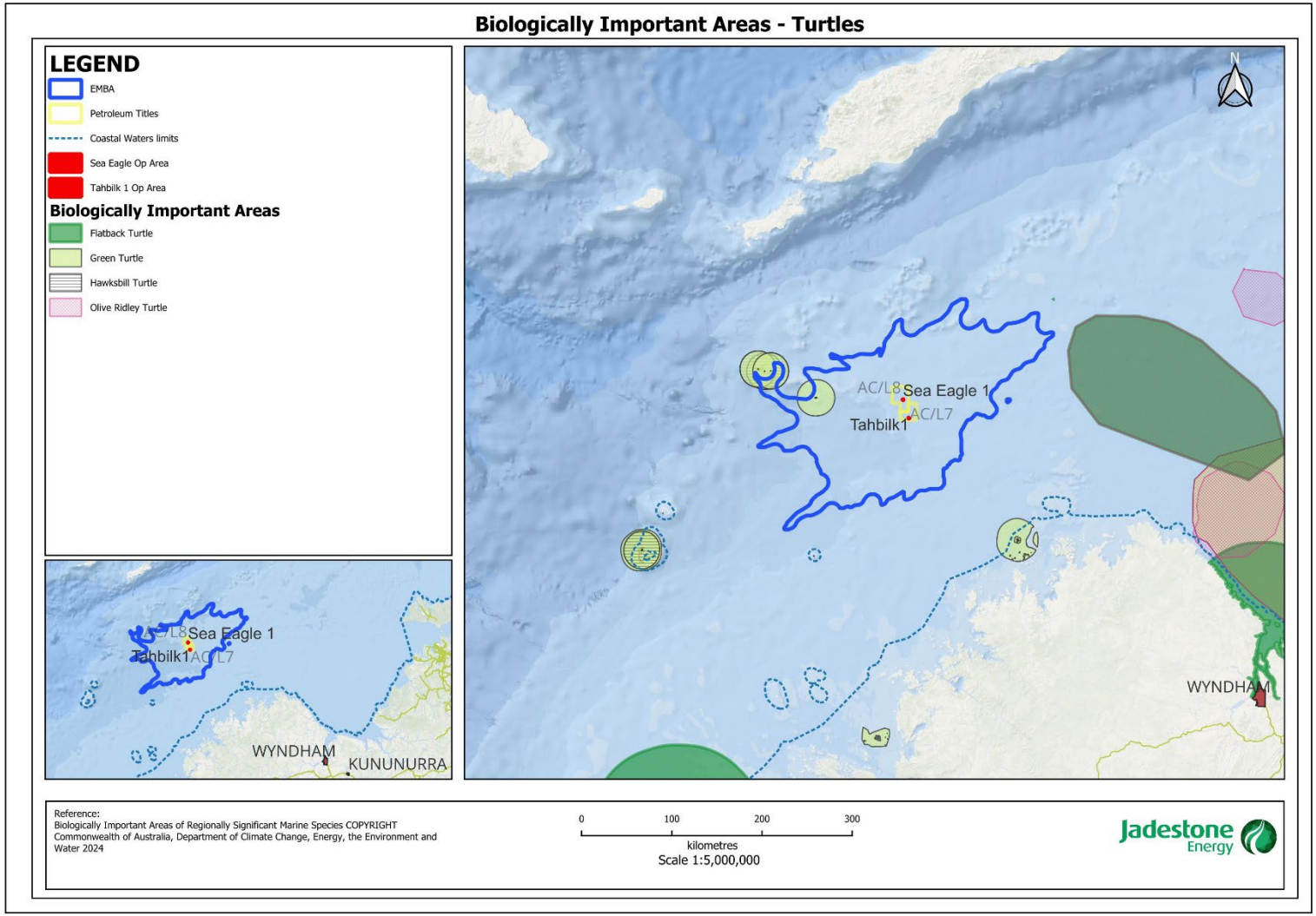


Figure 4-2 Marine Turtle BIAs

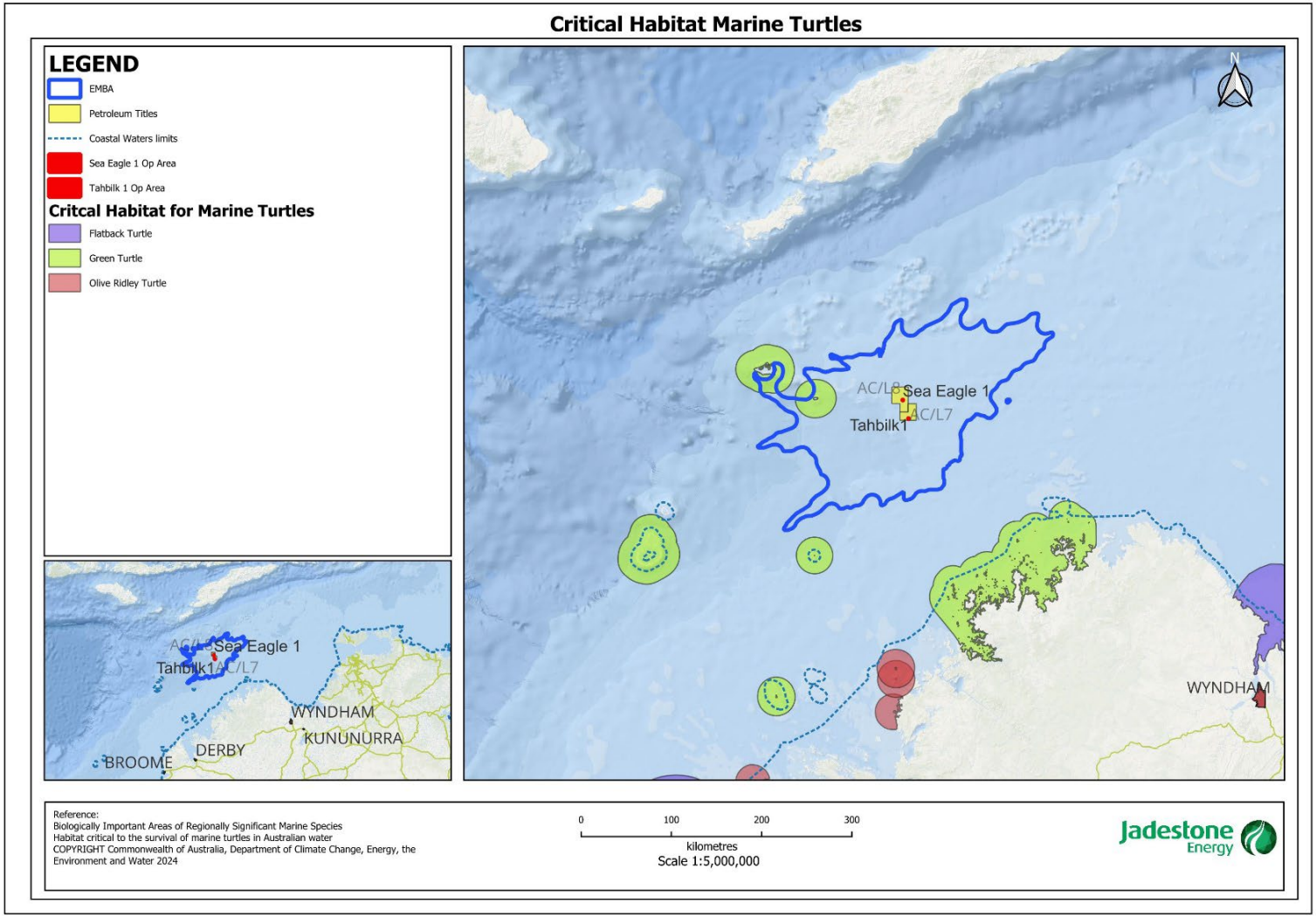


Figure 4-3 Habitat Critical to the survival of marine turtles

Green Turtle (Vulnerable/Migratory)

The closest known significant breeding/nesting grounds for the green turtle (*Chelonia mydas*) to the Montara field are Ashmore Reef and Cartier Island, approximately 125 and 84 km to the northwest respectively (Figure 4-2). 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 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). 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 operational area does not provide foraging habitat.

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 2006a). 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). Due to the presence of several rookery and foraging sites within the EMBA, it is expected that green turtles will occur.

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 Dommett (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.

Hawksbill Turtle (Vulnerable/Migratory)

Hawksbill turtles (*Eretmochelys imbricata*) are found in tropical, subtropical and temperate waters in all oceans of the world. 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).

The EMBA intersects with hawksbill turtle BIAs at Ashmore Reef and Cartier Island approximately 149km to the north-west of the operational area (Figure 4-2). Subsequently, hawksbill turtles are expected to occur within the EMBA.

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). There are no BIAs overlapped in the Operational Area or EMBA. As such, it is expected that very few leatherback turtles will be encountered in the Operational Area.

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 Montara field are found at Muiron Island and the beaches of the Northwest Cape (Baldwin et al. 2003), approximately 1,500 km south-west of the wellhead platform and outside the EMBA. Loggerhead turtles have also been recorded in the reserves of Ashmore Reef (125 km) and Cartier Island (84 km), west- northwest of the Operational Area (Guinea 1995). While the EMBA intersects with no BIAs, it is possible the this species may to be present, in limited numbers, within the EMBA.

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 observed 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. No olive ridley turtle BIAs are intersected by the Operational Area or the EMBA.

Short-nosed Sea-snake (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 (Guinea & Whiting 2005; Minton & Heatwole 1975).

The species prefers the reef flats or shallow waters along the outer reef edge in water depths to 10 m (Cogger 2000; McCosker 1975). 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 sea-snakes moved even as far as 50 m away from the reef flat and are therefore unlikely to be expected in high numbers in deeper offshore waters.

Leaf-scaled Sea-snake (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 & Heatwole 1975). The leaf-scaled seasnake forages by searching in fish burrows on the reef flat (DoE 2014) and are therefore unlikely to be expected in high numbers in deeper offshore waters, but may occur within the EMBA.

Dusky Sea-snake (Endangered)

The dusky sea snake (*Aipysurus fuscus*) is listed as endangered under the EPBC Act and the Biodiversity Conservation Act 2016 and is a moderately short and stout sea snake. It is endemic to Australian waters in the Timor Sea off northwest Western Australian, within the expansive North- west Marine Region. It has been recorded sparsely and patchily from reefs and shoals at the outer margin and mid-shelf of the Australian continental shelf, specifically at the Scott Reef complex (Scott Reef, North Scott Reef and Sandy Islet) and nearby Seringapatam Reef, Heywood Shoal, and at Ashmore Reef and nearby Cartier Island and Hibernia Reef (Guinea et al. 1993; Guinea 2013; Udyawer et al. 2020). The dusky sea snake is a shallow-reef specialist that has only been recorded at depths of 0–20 m (Lukoschek et al. 2013; Udyawer et al. 2020). Given the habitat and water depth preference the dusky sea snake is unlikely to be expected in high numbers in deeper offshore waters, nut may occur within the EMBA.

4.1.3 Marine Mammals

The region is known to be an important migratory pathway between feeding grounds in the Southern Ocean and breeding grounds in tropical waters for several cetacean species (Table 4-3). 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. brevicauda*) 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-analysis of data, some of the Bryde's whales (*Balaenoptera edeni*) reported are now believed to be the calls of Omura's whale (*Balaenoptera omurai*) (McPherson et al. 2017). Omura's whales therefore appear to be present year-round along the region's continental shelf, but showed seasonal differences in occurrence at specific sites (McPherson et al. 2017). Overall, they are most commonly detected in the Timor Sea in winter.

Table 4-3 Marine Mammal windows of sensitivity

Key	Peak times											
	January	February	March	April	May	June	July	August	September	October	November	December
Marine Mammals												
Dugong: Calving / breeding												
Pygmy Blue Whale: Northern migration												
Pygmy Blue Whale: Southern migration												
Humpback Whale: Calving / breeding												

Blue Whale (Endangered/Migratory)

Blue whales (*Balaenoptera musculus*) are widely distributed throughout the worlds' 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 2008c). 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. The EMBA, however overlaps the pygmy blue whale migratory route BIA off the Kimberley Coast (Figure 4-4). 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.

Humpback Whale (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 within 30 km of the coast, 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 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 does not overlap with any humpback whale BIAs. There are identified BIAs for breeding, calving and resting at Camden Sound MP, adjacent to the Kimberley coast approximately 103km away (Figure 4-4).

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 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).

Individual fin whales may be encountered within the Operational Area and 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 have been recognised in the past, however recent DNA sequencing has revealed the known 'pygmy form' of Bryde's whale to be a separate species now known as the Omura's whale (*Balaenoptera omurai*) which has been recorded at the Coco-Keeling Islands offshore of northwest Australia (Cherchio et al. 2019).

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 may be found 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 the 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 truncates*) and known to exist in waters off all Australian states. The spotted bottlenose dolphin appears to be restricted to inshore areas such as bays and estuaries, nearshore waters, open coast environments, and shallow offshore waters including coastal areas around oceanic islands (DoEE 2017b).

Due to the distance from the coast and deeper waters of the Operational Area, spotted bottlenose dolphins are not expected to occur, particularly given the preference for shallower, coastal waters. Given their cosmopolitan distribution, the species may be encountered within the Operational Area and EMBA.

Sperm Whale (Migratory)

Sperm whales typically occur in WA along the southern coastline between Cape Leeuwin and Esperance (Bannister *et al.* 1996). Sperm whales are distributed worldwide in deep waters (greater than 200 m) off continental shelves and sometimes near shelf edges, averaging 20 to 30 nautical miles offshore (Bannister *et al.* 1996). The sperm whale is known to migrate northwards in winter and southwards in summer, however, detailed information on the distribution of sperm whales is not available for the timing of migrations. Sperm whales have been recorded in deep water off the North West Cape on the west coast of Western Australia (RPS 2010) and appear to occasionally venture into shallower waters in other areas (RPS 2010).

Dugong (Migratory)

Dugongs occur in coastal and island waters from Shark Bay in Western Australia across the northern coastline to Moreton Bay in Queensland (Marsh et al. 2002, 2011a).

Dugongs (*Dugong dugon*) are large herbivorous marine mammals (up to 3 metres) that feed off seagrass and generally inhabit coastal areas in shallow waters (less than 5 m). Dugong distribution and movement is based on the abundance, size and species of seagrass meadow. Key populations along the WA coast are principally located at: Shark Bay (the largest resident population in Australia), Ningaloo Marine Park, the Pilbara coast and offshore areas including Montebello/Barrow/Lowendal Islands, and further north at Eighty Mile Beach and off the Kimberley Coast, particularly Roebuck Bay and Dampier Peninsula (Marsh et al. 2002; DSEWPaC 2012).

BIAs for foraging of the dugong exist along the Pilbara and Kimberley coast and at Ashmore Reef within the EMBA, illustrated in Figure 4-5.

Omura's Whale (Migratory)

Omura's whales (*Balaenoptera omurai*) were only described as a new species basal to the Bryde's whale group in 2003 (Wada et al. 2003) and remain poorly understood in terms of their spatio-temporal distribution. While distantly related to Bryde's whales (Cerchio et al. 2015), the two species share some life history traits such as remaining in tropical waters, as opposed to undertaking large-scale seasonal migrations characteristic of other baleen whales (JASCO 2016a). Omura's whales are not listed under the EPBC Act but are listed on the IUCN Red List as Data Deficient (IUCN 2017).

A scientific study undertaken by Cerchio et al. (2015), which assessed the ecology and behaviour of Omura's whales off the north-west Madagascar, has provided some valuable insight into the species. Omura's whales, when present in the Madagascar region (October to November), appeared to be distributed solely on the shallow continental shelf habitat, within approximately 10 km–15 km of the shelf break and predominantly in water depths of 10 m–25 m (however, they were observed in depths of up to 202 m) (Cerchio et al. 2015). Cerchio et al. (2015) noted that other studies have suggested that the species also inhabits deeper waters, with observations made only off the Cocos Islands and eastern Indian Ocean from research whaling data. Feeding in the shelf habitat was frequently observed and was thought to be related to patchy food resources that were most likely zooplankton (Cerchio et al. 2015).

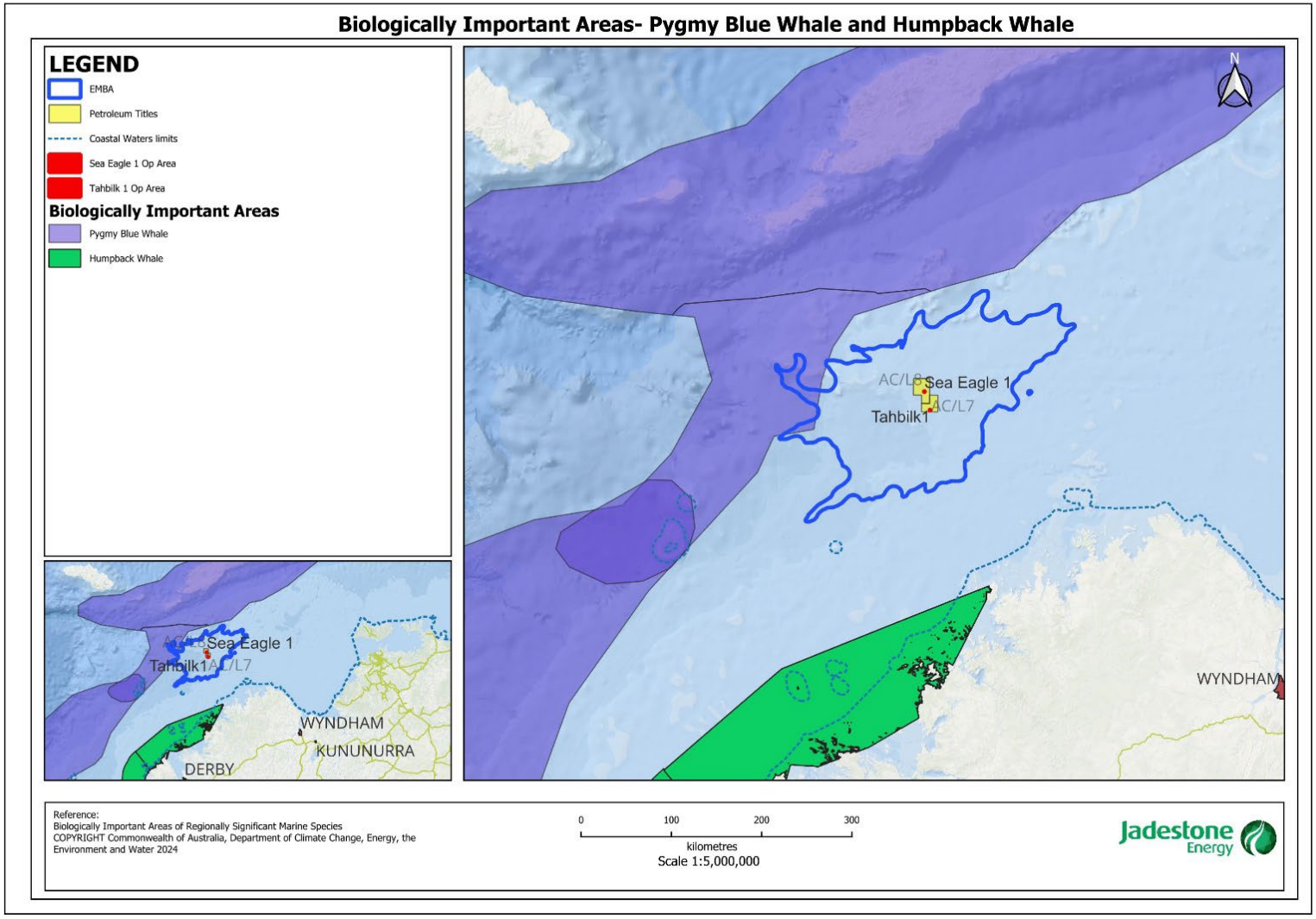


Figure 4-4 Pygmy Blue whale and Humpback BIAs

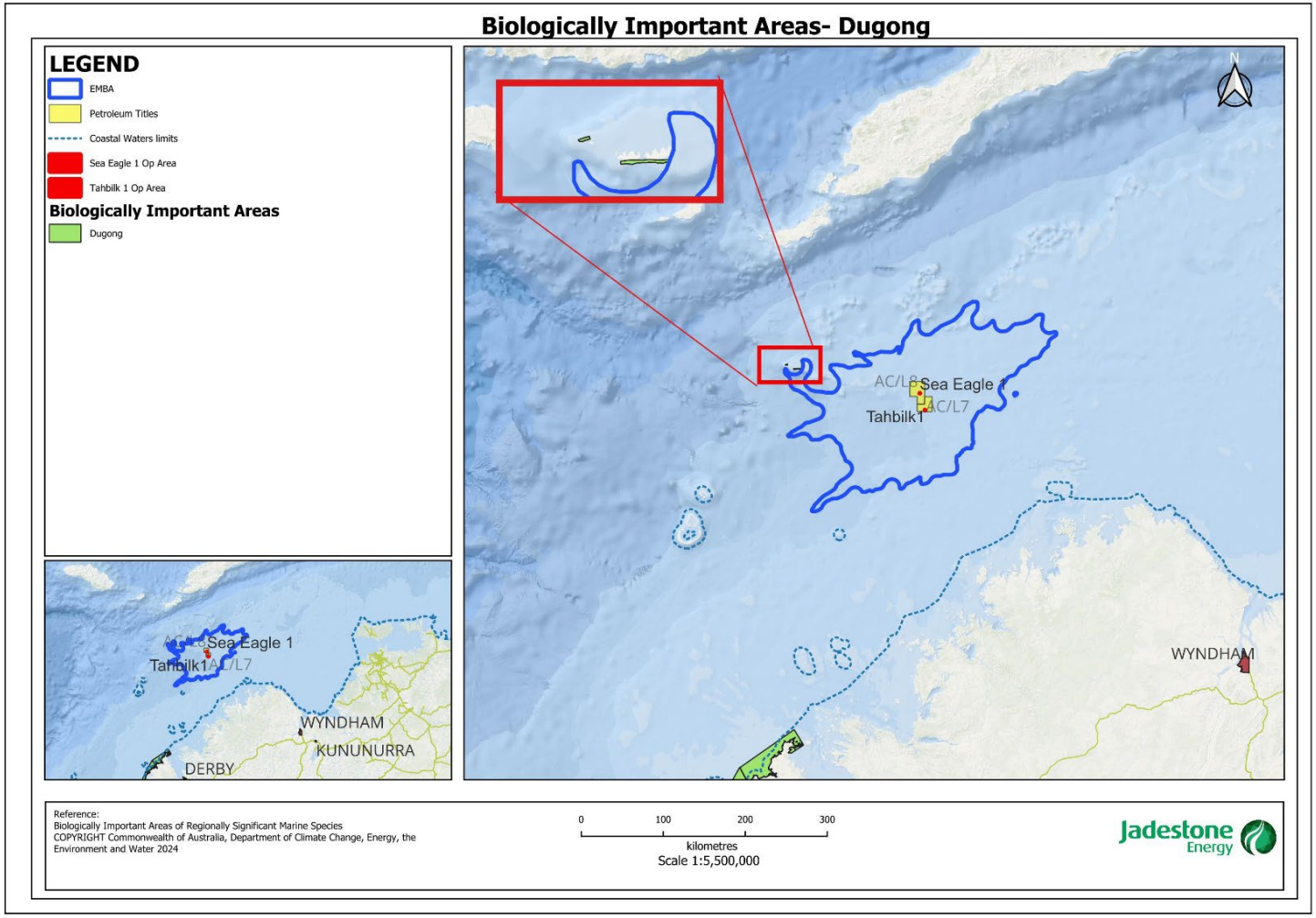


Figure 4-5 Dugong BIAs

4.1.4 Avifauna

No avifauna migration, resting, foraging or breeding BIAs are present within the Operational area. However, a number of BIAs overlap the EMBA and these are shown in Figure 4-6 and Figure 4-7. The nearest breeding/roosting site to the Operational Area is Cartier Island approximately 93km away. However, it is known that the Montara FPSO and WHP attract a number of foraging and breeding listed migratory species in large numbers. This is further described in Section 4.1.4.1

Numerous species of birds frequent the Timor Sea or fly through the area on annual migrations. Seabird feeding grounds, roosting and nesting areas are found at the offshore atolls in the wider region, particularly Ashmore Reef. Many species are listed under the Japan-Australia Migratory Bird Agreement (JAMBA), China-Australia Migratory Bird Agreement (CAMBA) or Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA). Most seabirds breed at offshore sites, such as Ashmore Reef, Cartier Island and Browse Island, from mid-April to mid-May (Clarke 2010). Peak migration time of migratory shorebirds is between October and December (Clarke 2010). It is expected that some individuals of these species may pass through the EMBA during their annual migrations (Table 4-4). Protected avifauna species are further described below.

Table 4-4 Windows of sensitivity for avifauna

Key	Peak times											
	January	February	March	April	May	June	July	August	September	October	November	December
Avifauna												
Seabirds: Breeding												
Shorebirds: Migrating												

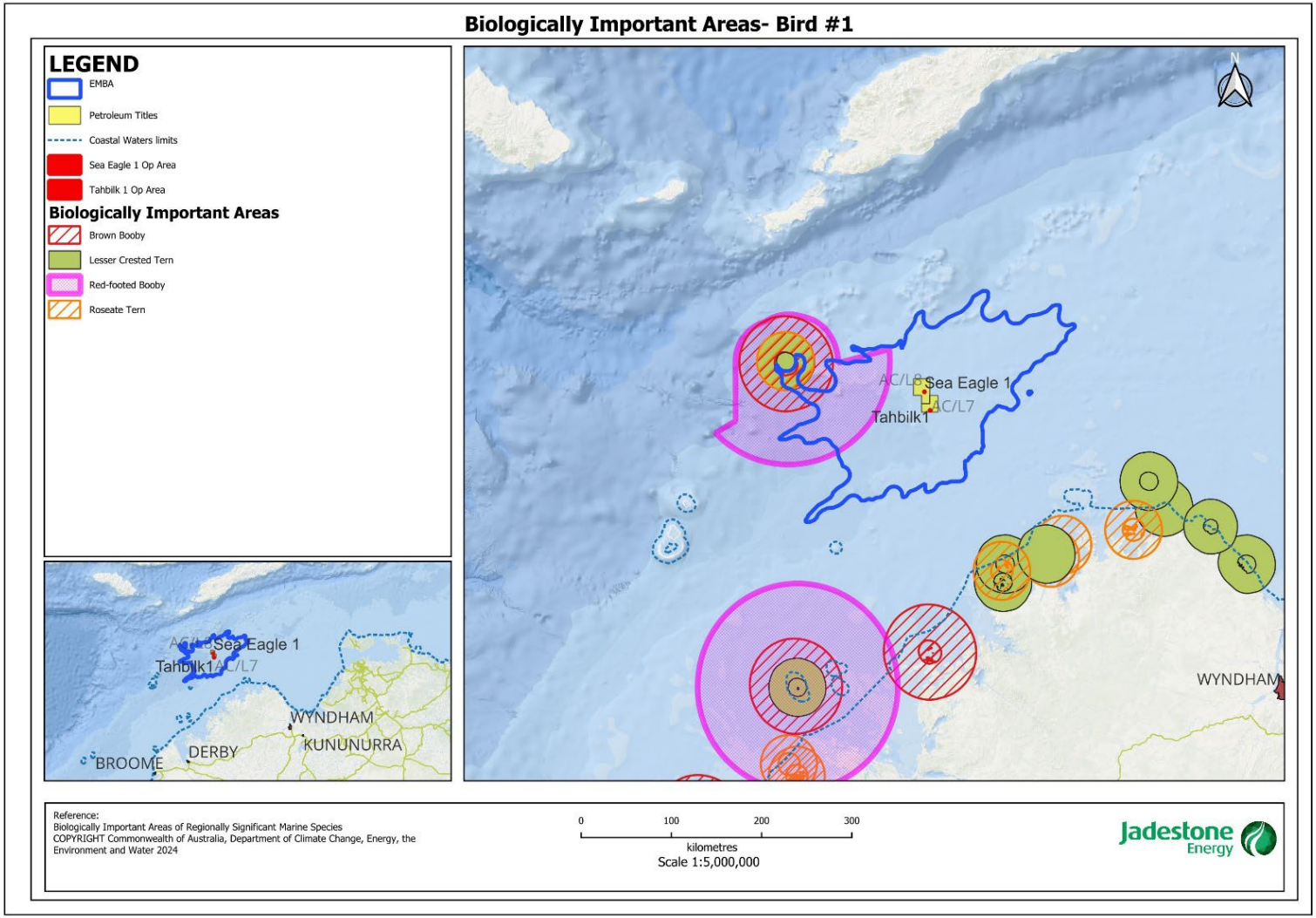


Figure 4-6 Brown booby, lesser crested tern, red-footed booby and roseate tern BIAs

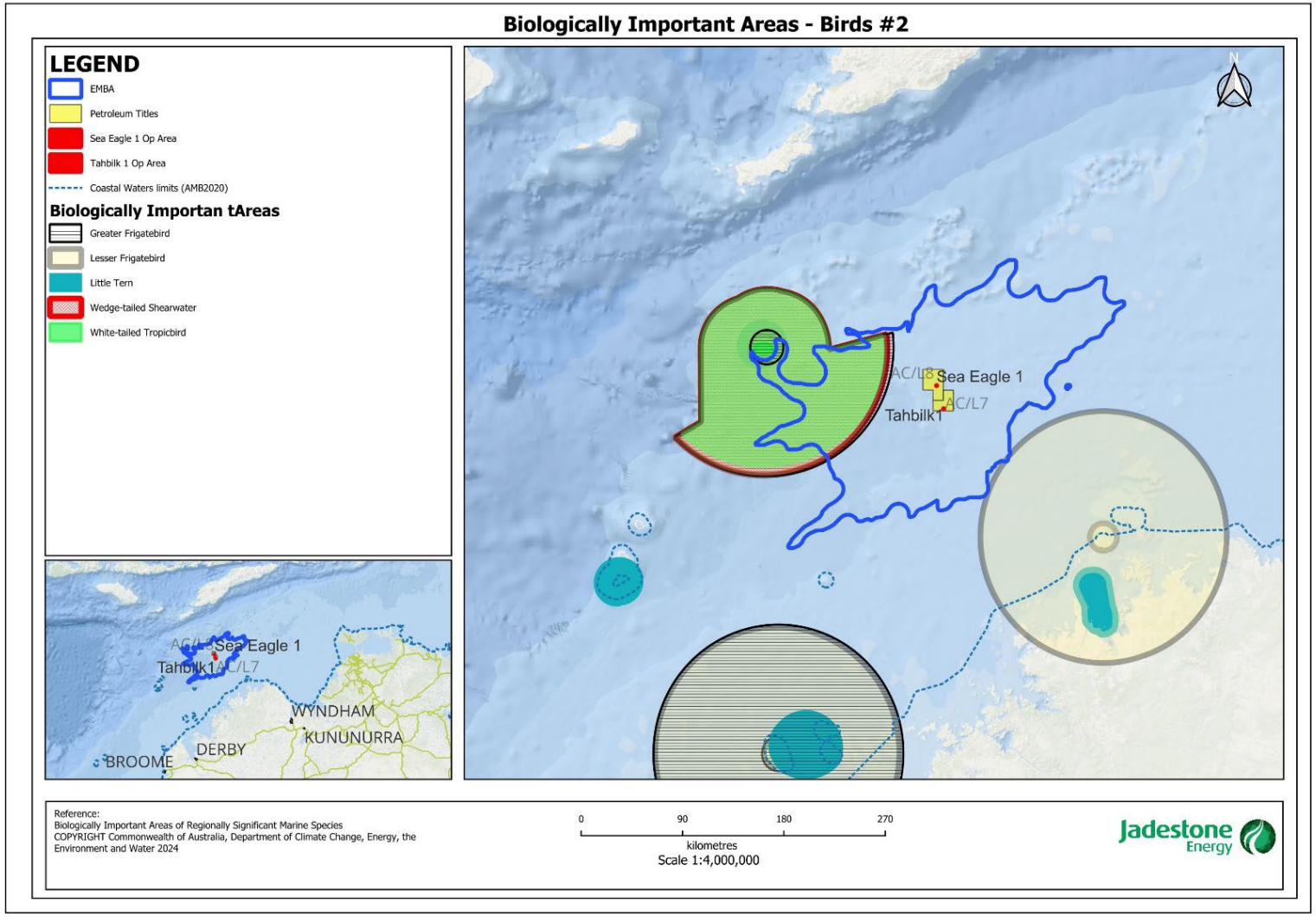


Figure 4-7 Greater frigatebird, lesser frigatebird, little tern, wedge-tailed shearwater and white-tailed tropicbird BIAs

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). The species may be present foraging within the EMBA.

Asian Dowitcher (Vulnerable/ Migratory)

The Asian dowitcher (*Limnodromus semipalmatus)* is listed as Vulnerable and Migratory under the EPBC Act. The Asian Dowitcher was first recorded in Australia in 1972 and is a regular visitor to the north-west between Port Hedland and Broome. In Western Australia the species has been recorded at Albany, Lake McLarty, Lake McLeod, north-east Pilbara and the south-west Kimberley division. It has also been recorded at the Port Hedland Saltworks, Roebuck Bay, Ashmore Reef and Eighty Mile Beach (Higgins & Davies 1996). It is known to eat polychaete worms and larvae, also insect larvae and molluscs. The Asian Dowitcher occurs in sheltered coastal environments, such as embayments, coastal lagoons, estuaries and tidal creeks. They are known to frequent shallow water and exposed mudflats or sandflats where they feed (Higgins & Davies 1996). The species may occur within the EMBA.

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.

Barn Swallow (Migratory)

The barn swallow (*Hirundo rustica*; migratory) usually occur in northern Australia, on Cocos-Keeling Island and Christmas Island (both outside of the Planning Area) (Stokes et al. 1984; Stokes 1988), Ashmore Reef (Higgins et al. 2006), and patchily along the north coast of the mainland from the Pilbara region (WA) to Fraser Island (Qld).

Bar Tailed Godwit (Migratory)

The Bar-tailed Godwit (*Limosa lapponica*) has been recorded in the coastal areas of all Australian states. In Western Australia it is widespread around the coast, from Eyre to Derby, with a few scattered records elsewhere in the Kimberley Division. Populations have also been recorded in the Top End, from Darwin and Melville Island, east to the Alligator River and Croker Island. Non breeding bar tailed godwits begin to arrive in north-west Australia from August with numbers increasing until mid-November (Marchant & Higgins 1993)

Brown Booby

See section **4.1.4.1**

Christmas Island White-tailed Tropicbird (Endangered)

The Christmas Island white-tailed tropicbird is endemic to Christmas Island and leaves the island to forage in the warm waters of the Indian Ocean (Garnett 2011). The white-tailed tropicbird roots at sea; only incubating or brooding adults remain on nests on the island at night (Stokes 1988). The species may be present within the EMBA.

Common Noddy

See section **4.1.4.1**

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 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.

Curlew Sandpiper (Critically Endangered/Migratory)

In Australia, curlew sandpipers (*Calidris ferruginea*) occur around the coasts and are widespread inland. In WA, they are found around coastal and subcoastal plains from Cape Arid to the 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 intermittently 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 2015g). Based on the distribution and habitat preferences the species may be encountered within the Operational Area and occurs 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 (Figure 4-7). 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.

Greater Sand Plover (Vulnerable, Migratory)

During the non-breeding season, the species is recorded in many coastal areas of Australia. The Greater Sand Plover is one of the first migratory waders to return to north-western Australia, usually arriving in late July with most Plovers leaving the north-west by mid to late April. In Australia, the Greater Sand Plover occurs in coastal areas in all states, though the greatest numbers occur in northern Australia, especially the north-west. Greater Sand Plovers usually feed from the surface of wet sand or mud on open intertidal flats of sheltered embayments, lagoons or estuaries, feeding on molluscs, worms, crustaceans and insects. They usually roost on sand-spits and banks on beaches or in tidal lagoons, and occasionally on rocky points

Grey Wagtail (Migratory)

The grey wagtail (*Motacilla cinerea*; migratory) is widely distributed, with several populations breeding in Europe and Siberia. In Australia, the grey wagtail is widely distributed throughout Australia and several offshore islands. The grey wagtail feed on a variety of aquatic invertebrates including adult flies, mayflies, beetles, crustacea and molluscs (Birdlife International 2017).

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 (Figure 4-7). 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.

Little Tern (Vulnerable/ Migratory)

The species is widespread in Australia, with breeding sites widely distributed from north-western Western Australia, around the northern and eastern Australian coasts to south-eastern Australia. In a summary of known Australian breeding sites, Garnett and Crowley (2000) indicate: several colonies exist in Western Australia and at least 37 colonies in the Northern Territory (possibly as many as 62+). In Australia, Little Terns inhabit sheltered coastal environments, including lagoons, estuaries, river mouths and deltas, lakes, bays, harbours and inlets, especially those with exposed sandbanks or sand-spits, and also on exposed ocean beaches.

The Little Tern (*Sternula albifrons*) has a resting BIA that overlaps the EMBA only**.**

Northern Siberian Bar tailed Godwit (Endangered)

Two subspecies of the bar-tailed godwit exist, as determined by their breeding locations in Alaska (*Limosa lapponica bauera)* and Siberia (*Limosa lapponica menzbieri*) (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 mainly along the coasts of north Western Australia (DoEE 2017b).

Nonbreeding birds are found on muddy coastlines, estuaries, inlets, mangrove-fringed lagoons and sheltered bays, feeding on annelids, bivalves and crustaceans (Higgins and Davies 1996 in Garnet et al. 2011). The species may occur within the EMBA.

Oriental Reed-Warbler (Migratory)

The oriental reed-warbler (*Acrocephalus orientalis*) is distributed in northern and eastern Australia and Asia. It breeds in northern Asia and forages for insects and other invertebrates (Birdlife International 2024).

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 EMBA.

Red Knot (Vulnerable/Migratory)

The red knot, a migratory shorebird, is described with 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.

Red footed Booby (Migratory)

The red-footed booby (*Sula sula*) has an extensive distribution in tropical regions of the Indian, Pacific and Atlantic oceans. In Australia, this species is not known to travel far from breeding colonies, however juveniles emigrate to other islands. The species has not been recorded from WA or the NT coasts, but breeding occurs on Ashmore Reef. The red-footed booby forages in deep water up to 150 km from the nearest breeding island on fish, especially flying fish, and cephalopods by plunge diving to small depths (DoE 2023c). A known breeding BIA for the red-footed booby overlaps the EMBA (Figure 4-6)

Red-rumped Swallow (Migratory)

The red-rumped swallow (*Cecropis daurica*) is a widespread Eurasian migratory bird with irregular occurrences within northern Australia. The red-rumped swallow migrates to Australia during its non-breeding season between October and April (Jackson and Kyne 2013).

Red-tailed Tropicbird (Migratory)

The red-tailed tropicbird (*Phaethon rubricauda;* migratory) is a seabird native to tropical parts of the Indian and Pacific Oceans. The red-tailed tropicbird is predominately a plunge diver, diving from an above-water height ranging from ~6 to 50 m and to a depth of ~4.5 m, although this may change seasonally. The species prey on mainly squid and flying fish (BirdLife International 2020).

Red-tailed Tropicbird (Indian Ocean) (Endangered)

The Indian Ocean red-tailed tropicbird (*Phaethon rubricauda westralis*; endangered) is a pelagic and can be found in tropical and subtropic parts of the Indian Oceans (Marchant and Higgins1990). The subspecies has a wide range across eastern Indian Ocean when not breeding (Willacy et al. 2021); current breeding areas occur on Christmas Island (James & McAllan 2014) Cocos (Keeling) Islands (Stokes et al. 1984); Bedwell Island and Rowley Shoals (Berry 1986); and West, Middle and East Islands of Ashmore Reef (Clarke et al. 2011).and Rottnest Island (Mather & Greenwell 2021; Mather 2022; S Bell, R Priemus, S Mather & C Greenwell unpublished data). The species prey on mainly squid and flying fish (BirdLife International 2020; DCCEEWc).

Roseate Tern (Migratory)

Roseate terns (*Sterna dougallii*) are a marine migratory bird species recorded from south-west WA to south-east Qld. In WA, roseate terns regularly occur from Mandurah to Eighty Mile Beach in the Pilbara Region, and at scattered sites north to at least the Bonaparte Archipelago in the Kimberley Region. In the NT, this species mainly occurs from Darwin to Gove Peninsula, west to North Peron Island and east to the Sir Edward Pellow Islands. Breeding mainly occurs off the WA and NT coasts during two distinctive periods either in spring-summer or autumn-winter, with April to November the peak laying periods. Roseate Tern migration varies geographically and is not well documented. This species inhabits coral reefs, rocky and sandy beaches, sand cays and offshore islands, feeding by plunge-diving for fish in the ocean (DoE 2023ao). The Planning Area overlaps a breeding BIA for the roseate tern and is included in Figure 4-6

Sharp- tailed Sandpiper (Vulnerable/ 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 Australian 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 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.

White-tailed Tropicbird (Migratory)

White-tailed tropicbird (*Phaethon lepturus*) is a medium sized seabird. The white-tailed tropicbird usually feeds alone or in pairs (Marchant and Higgins 1990) and is less often associated with flocks of seabirds and subsurface predators (e.g. tuna) than do other tropical seabirds (DoE 2023). A breeding BIAs for the white-tailed tropicbird overlaps the Planning Area and is included in Figure 4-7.There are three breeding populations—Rowley Shoals, North Keeling Island (outside the Planning Area) and Ashmore Reef (DoE 2023).

Yellow Wagtail (Migratory)

The yellow wagtail (*Motacilla flava*) is widely distributed, with several populations breeding in Europe and Asia. In Australia, the yellow wagtail is widely distributed throughout Australia and several offshore islands. It feeds on a variety of terrestrial and aquatic invertebrates and some plant material, particularly seeds (Birdlife International 2019).

4.1.4.1 Birds known to occur on Montara FPSO and the WHP within Montara Field

The Montara FPSO and WHP as well as Sea Eagle and Tahbilk wellhead are surrounded by waters with typically low seabird densities. Waters across tropical seas are typically low productivity (Dunlop et al. 2001), however the presence of offshore platforms act as artificial hard substrate enhancing biological communities (Macreadie et al. 2011) and may act to increase local productivity (Fowler et al. 2018), and provide for a resting place for migrating seabirds. The FPSO and WHP also provides artificial nesting habitat that is free from natural predators and located adjacent to a reliable food source with the potential for less intra- and interspecific competition for resources that otherwise occurs at Ashmore Island.

Seabird presence has been systematically monitored at the Montara FPSO and WHP since 2019 (when operations were transferred to Jadestone) with the three most commonly observed species being Common/Brown noddies (*Anous stolidus*), Brown boobies (*Sula leucogaster*) and Bridled terns (*Onychoprion anaethetus)*. These are described below as they have the potential to fly over the area.

Common/ Brown Noddy (Migratory)

The common noddy (*Anous stolidus*) is a pelagic migratory species. The species is considered one of the five most numerous breeding species in the Eastern Indian Ocean (Surman et al. 2018). One of the most significant colonies is at Ashmore Reef Marine Park where the species is considered to be the second most abundant with over 40,000 individuals recorded (Cannell and Surman 2020). The species is also encountered off the coast of the NT, albeit at relatively low number. A single 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). A tagging study from the Lacepede Islands showed, that brown noddies foraging would travel up to 611 km per trip at a maximum distance from the breeding colonies of 210 km (Surman, pers comms 2023).

This species is the seabird species most commonly encountered on the Montara FPSO and also occurs within the EMBA. The population on the FPSO, where philopatric behaviour occurs, has been estimated to make up ~0.4% of WA population and ~0.3% of global population.

Brown Booby (Migratory)

In Australia, the brown booby (*Sula leucogaster*) uses both marine and terrestrial habitat. They often stay close to their breeding islands and generally feed inshore, in both shallow and deep waters (DoEE 2019). They are relatively short-range foragers when breeding (<80km) (Clarke and Herrod 2016).

The species is known to be resident and partly nomadic (i.e. birds dispersing widely between breeding seasons) and is known to readily roost on artificial structures (such as, navigation beacons, buoys, piles, railings, shipwrecks). They are known to be present along coastal waters, harbours and estuaries; however, they seldom fly over land. Breeding is known to occur at Ashmore Island, Adele Island, White Island, Lacepede Islands and Bedout Island and they nest on rugged rocky terrain such as cliffs and steep slopes, on larger islands, beaches, coral rubble and guano flats on cays (DoEE 2019).

The species is commonly encountered on the Montara WHP and also occurs within the EMBA. The population on the Montara WHP has been estimated to make up ~1.8% of WA population and ~0.2% of global population.

Bridled Tern (Migratory)

This species was not included in the PMST reports but is included here as it is known to be present on the Montara FPSO and likely to occur in the Sea Eagle and Tahbilk EMBA.

In Australia, the bridled tern (*Onychoprion anaethetus*) is widespread, breeding on offshore islands in western, northern and north-eastern Australia, extending from Cape Leeuwin in the south-west, around northern Australia to north-eastern and mid-eastern Queensland, extending through the Great Barrier Reef and Coral Sea as far south as Lady Elliott Island (approximately 24° S).

In Western Australia, breeding is widespread from islands off Cape Leeuwin (extending round the southern coast to Seal Rocks) north to Shark Bay and in Pilbara region and Kimberley Division. At sea, distribution extends from Cape Leeuwin north to Dirk Hartog Island, with isolated mainland coastal records at Point Maud and Ningaloo, and from Barrow Island to the Dampier Archipelago, and at sea off the Kimberley coast from waters west of the Dampier Peninsula to Ashmore Reef and Joseph Bonaparte Gulf (Barrett et al. 2003; Blakers et al. 1984; Higgins & Davies 1996; Johnstone & Storr 1998). In 2019, surveys reported 400 adults across islands and cays of Ashmore Reef Marine Park (Cannell and Surman 2020). The species is considered one of the five most numerous breeding species in the Eastern Indian Ocean (Surman et al. 2018).

This species is commonly encountered on the FPSO. The population on the FPSO has been estimated to make up ~0.5% of WA population and ~0.1% of global population.

4.1.5 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 4-5. The full EPBC Act Protected Matters report for the EMBA is provided in Appendix D.

Table 4-5 Summary of conservation values and sensitivities in the EMBA

MNES Protected under EPBC Act	EMBA Presence	Appendix Section
Wetlands of International Importance (Ramsar)	✔ (1)	4.1.5.1
Commonwealth Marine Areas	✔	4.1.5.2
Listed Threatened Species	✔ (30)	4.1
Listed Migratory Species	✔ (51)	4.1
Other Matters Protected under EPBC Act	**EMBA Presence**	
Commonwealth Heritage Places	✔ (1)	4.2.12
Listed Marine Species	✔ (85)	4.1.6.1
Whales and other cetaceans	✔ (26)	4.1.2
Australian Marine Parks	✔ (2)	4.1.6.4
Other Areas of high conservation significance	**EMBA Presence**	
Key Ecological Features (KEFs) (Marine)	✔ (4)	4.1.8
Biologically Important Areas	✔ (18)	4.1

4.1.5.1 Wetlands of International Importance (Ramsar)

Ashmore Reef National Nature Reserve is the only "wetlands of international importance" under the Convention on Wetlands of International Importance (Ramsar Convention), referred to henceforth as Ramsar wetlands, within the EMBA**.** The values for those sites that could be affected by marine impacts are outlined in Table 4-7.

Table 4-6 Wetlands of International Importance (Ramsar) distances

Wetland of International Importance (Ramsar)	Straight-line distance from Montara Field
Ashmore Reef National Nature Reserve	125 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 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 4-7 Description of Ramsar Wetlands of International Importance within the EMBA

Ramsar Wetland	Ecological Characteristics	Relevant Management Documents
Ashmore Reef Marine Park Ramsar site	- All wetland types present are in near natural condition - Supports 64 internationally and nationally threatened species - Supports 47 waterbird species listed as migratory under international treaties, plus breeding of 20 waterbird species - Important feeding site for three turtle species and critical nesting and inter-nesting habitats for two turtle species - Regularly supports more than 20,000 waterbirds and has been known to support more than 65,000 waterbirds - Regularly supports > 1% of at least six species of waterbirds	Environment Australia (2002) DoNP (2018a) Ashmore Reef Commonwealth Marine Reserve Ramsar site Ecological Character Description (Hale and Butcher, 2013)

4.1.5.2 Commonwealth Marine Areas

The EMBA are within the Australian 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” (EPBC Act 1999). 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.

4.1.6 Others Matters Protected by the EPBC

4.1.6.1 Listed Marine Species

A total of 85 Listed Marine Species are either likely to, or may, occur within the EMBA, including:

- 28 avifauna species;
- 1 mammal species;
- 30 fish species; and
- 26 reptile species.

Note that these also include all listed threatened and migratory species, as described in Section 4.1.

4.1.6.2 Whales and Other Cetaceans

The Protected Matters search determined that 26 cetacean species or their habitat, may occur within the EMBA. Threatened species of whales and cetaceans occurring in the EMBA are discussed in Section 4.1.3.

4.1.6.3 Commonwealth Heritage Places

Ashmore Reef National Nature Reserve is the only Commonwealth Heritage Places are found in the EMBA. It is located approximately 125km away from the Montara field.

4.1.6.4 Australian Marine Parks (AMPs)

Two Australian Marine Parks (AMPs) exist within the EMBA (Figure 4-8).

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 EMBA is provided in Table 4-8**.**

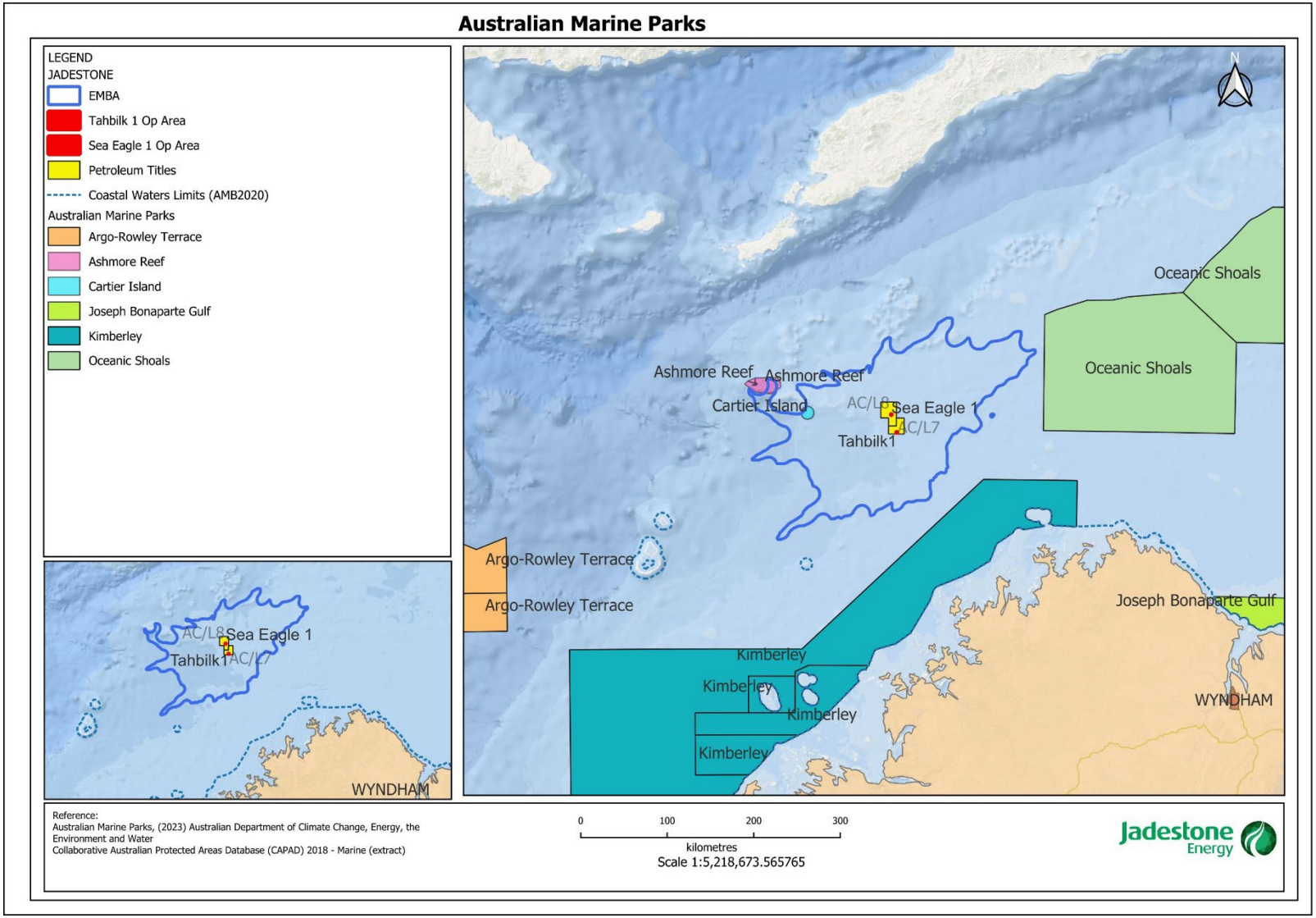


Figure 4-8 Australian Marine Parks within the EMBA

Table 4-8 Description of Australian Marine Parks within the EMBA

Australian Marine Park	Distance from Montara Field	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
Ashmore Reef	125 km	- 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 - 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 - Reef covers an area of 227 km2 - Encompasses ecosystems, habitats and communities associated with the North-West Shelf, Timor Province, and emergent oceanic reefs - World's highest recorded abundance and diversity of sea snakes (DSEWPaC 2012c) - Important biological stepping-stone facilitating transport of biological material to the reef systems along the WA coast - Critical nesting and inter-nesting habitat for green turtles on all three islands (DoE 2015a) - Moderate nesting habitat for hawksbill turtles (Whiting and Guinea 2005; Guinea 2013) - Low nesting activity by loggerhead turtles (single report of nesting on West Island; Whiting and Guinea 2005) - Large and significant feeding populations of green, hawksbill and loggerhead turtles occur around the reefs - Supports a range of pelagic and benthic marine species - Seagrass supports a small dugong population of less than 50 individuals that breeds and feeds around the reef (Whiting and Guinea 2005) - Reef is highly diverse, particularly for corals and molluscs,	Sanctuary (1a) Recreational (IV)	North-west Marine Parks Network Management Plan (DoNP 2018a) Sanctuary Zone (IUCN category Ia)—managed to conserve ecosystems, habitats and native species in as natural and undisturbed a state as possible The zone allows only authorised scientific research and monitoring Emergency response permitted

Australian Marine Park	Distance from Montara Field	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
		supporting the highest number of coral species of any reef off the west Australian coast (DSEWPaC 2012b) - Migratory pathway for pygmy blue whales - 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) - 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) - Cultural and heritage sites including Indonesian artefacts and grave sites - Two KEFs: Ashmore Reef and Cartier Island and surrounding Commonwealth waters and Continental Slope Demersal Fish Communities - Subject to the Memorandum of Understanding between Australia and Indonesia (MoU Box) - 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 - 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 No international or national heritage listings apply to the Marine Park at commencement of the management plan (DoNP 2018a) - Commonwealth heritage Ashmore Reef was listed on the Commonwealth Heritage List in 2004,		

Australian Marine Park	Distance from Montara Field	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
		meeting Commonwealth heritage listing criteria A, B and C 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		
Cartier Island	84 km	- 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 - Covers an area of 172 km2 - Encompasses ecosystems, habitats and communities associated with the Timor Province (Director of National Parks 2018a) - Internationally significant for its abundance and diversity of sea snakes (DSEWPaC 2012b) - Important biological stepping stone facilitating the transport of biological material to the reef systems along the WA coast - 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 2012b) - Important seabird rookery and staging/feeding areas for many migratory seabirds - 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 2015b) - Supports a range of pelagic and benthic marine species - High diversity and abundance of hard and soft corals, gorgonians (sea fans), sponges and a range of encrusting organisms - Reef crests are generally algal dominated - Reef flats feature ridges of coral rubble and large areas of seagrass (Director of National Parks 2018a) - Foraging habitat for whale sharks (DoEE 2018b)	Sanctuary Zone (1a)	Sanctuary Zone (IUCN category Ia)—managed to conserve ecosystems, habitats and native species in as natural and undisturbed a state as possible. The zone allows only authorised scientific research and monitoring. DoNP (2018a)

Australian Marine Park	Distance from Montara Field	Description and Key Features of Conservation Significance	IUCN Zone within EMBA	Rules/Requirements
		- Two KEFs: Ashmore Reef and Cartier Island and surrounding Commonwealth waters and Continental Slope Demersal Fish Communities - Cultural and heritage site of the Ann Millicent historic shipwreck - Subject to the Memorandum of Understanding between Australia and Indonesia (MoU Box) - 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 significance of this Marine Park. - Scientific research is an important activity in the Marine Park		

4.1.7 Recovery Plans

Recovery plans set out a series of management actions and any essential research required to prevent the decline of listed Threatened species and support their recovery. Table 4-9 summarises the actions relevant to the activity, with more information about the requirements of the relevant plans of management (including recovery plans, conservation advice and wildlife conservation plans for marine fauna), and demonstrates where the EP considers those management requirements

Table 4-9 Relevant recovery plans, conservation advice and wildlife conservation plans relevant to the activity

Receptor	Species	Recovery plan/conservation advice/wildlife conservation plan	Threats/strategies identified as relevant to the activity
All	All vertebrate fauna	Threat Abatement Plan for Impacts of Marine Debris on Vertebrate wildlife of Australia's coasts and oceans (2018)	Marine debris
Fish and Sharks	All sawfish and river sharks	Sawfish and River Sharks Multispecies Recovery Plan (2015b)	Habitat degradation or modification
			Marine debris
	Green sawfish	Approved Conservation Advice for Green Sawfish (2008)	Habitat degradation and modification
	Freshwater sawfish	Approved Conservation Advice for *Pristis pristis* (largetooth sawfish) (2025)	Habitat degradation and modification
			Climate change
			Marine debris
	Northern river shark	Approved Conservation Advice for *Glyphis garricki* (northern river shark) (2014)	Habitat degradation and modification
	Great white shark	Recovery Plan for the White Shark (*Carcharodon carcharias*) (2013)	Ecosystem effects as a result of habitat modification and climate change
	Whale shark	Approved Conservation Advice for *Rhincodon typus* (whale shark) (2015)	Vessel disturbance
			Habitat degradation or modification
			Climate change
			Marine debris
Mammals	Blue whale (includes pygmy blue whale)	Conservation Management Plan for the Blue Whale 2015–2025 (2015)	Noise interference
			Climate variability and change
			Vessel disturbance
	Fin whale	Approved Conservation Advice for *Balaenoptera physalus* (fin whale) (2015)	Pollution (persistent toxic pollutants)
			Climate and oceanographic variability and change
			Anthropogenic noise and acoustic disturbance
			Vessel disturbance
	Sei whale		Pollution (persistent toxic pollutants)

Receptor	Species	Recovery plan/conservation advice/wildlife conservation plan	Threats/strategies identified as relevant to the activity
		Approved Conservation Advice for *Balaenoptera borealis* (sei whale) (2015)	Climate and oceanographic variability and change
			Vessel strike
			Anthropogenic noise and acoustic disturbance
Reptiles	All marine turtles	National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (2020)	Light pollution
			Climate change and variability
		Recovery Plan for Marine Turtles in Australia 2017–2027 (2017)	Marine debris
			Chemical and terrestrial discharge
			Climate change and variability
			Light pollution
			Vessel disturbance
	Leatherback turtle	Commonwealth Conservation Advice on *Dermochelys coriacea* (2008)	Vessel disturbance
			Marine debris
			Climate change
	Dusky sea snake	Conservation advice for *Aipysurus fuscus* (dusky sea snake) (2024)	Degradation of reef habitat, primarily as a result of coral bleaching (primary threat)
			Anthropogenic noise
			Climate change
			Oil pollution
	Short- nosed sea snake	Conservation Advice *for Aipysurus apraefrontalis* (short- nosed sea snake) (2011)	Degradation of reef habitat, primarily as a result of coral bleaching (primary threat)
	Leaf-scaled seasnake	Approved Conservation Advice on *Aipysurus foliosquama* (Leaf-scaled seasnake) (2011)	Degradation of reef habitat, primarily as a result of coral bleaching (primary threat)
Birds	All seabirds and shorebirds	National Light Pollution Guidelines for Wildlife (2023)	Light pollution
			Climate change and variability
	Seabirds	Wildlife Conservation Plan for Seabirds (2020)	Habitat loss or modification
			Anthropogenic disturbance
			Climate change
			Invasive species
			Pollution (marine debris, light, water)
			Habitat loss and degradation

Receptor	Species	Recovery plan/conservation advice/wildlife conservation plan	Threats/strategies identified as relevant to the activity
	Migratory shorebirds	Wildlife Conservation Plan for Migratory Shorebirds (2015)	Anthropogenic disturbance
			Climate change and variability
	Curlew sandpiper	Approved Conservation Advice for *Calidris ferruginea* (Curlew Sandpiper) (2023)	Habitat degradation or modification (oil pollution)
	Eastern curlew	Approved Conservation Advice for *Numenius madagascariensis* (Eastern Curlew) (2023)	Habitat loss, disturbance and modification
	Red knot	Approved Conservation Advice for *Calidris canutus* (Red knot) (2024)	Habitat degradation or modification
			Climate change
	Northern Siberian bar-tailed godwit	Conservation Advice *Limosa lapponica menzbieri* (Bar-tailed godwit (northern Siberian)) (2024)	Habitat degradation or modification
	Abbott's booby	Conservation Advice for the Abbott's Booby *Papasula abbotti* (2020)	Habitat degradation or modification
			Climate change – severe storm events and prey depletion
	Australian lesser noddy	Conservation Advice for *Anous tenuirostris melanops* (Australian lesser noddy) (2015)	Habitat degradation or modification
	Greater sand plover	Conservation Advice Charadrius *leschenaultii* Greater sand plover (2023)	Habitat degradation or modification
	Sharp-tailed Sandpiper	Conservation Advice *Calidris acuminata* sharp-tailed sandpiper (2024)	Chronic and acute pollution
			Climate change
	Asian Dowitcher	Conservation Advice *Limnodromus semipalmatus* Asian dowitcher (2024)	Chronic and acute pollution
			Climate change
	Red Tailed Tropicbird	Approved Conservation Advice for *Phaethon rubricauda westralis* (Indian Ocean red-tailed tropicbird) (2023)	Climate change
	Little Tern	Conservation advice for *Sternula albifrons* little tern (2025)	Anthropogenic disturbance
			Climate change
			Habitat loss and degradation

4.1.8 Key Ecological Features

The KEFs that intersect the EMBA are described in Table 4-10 and their location is shown in Figure 4-9.

Table 4-10 Description of Key Ecological Features within the EMBA

Key Ecological Feature	Straight-line distance from Montara Field	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
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

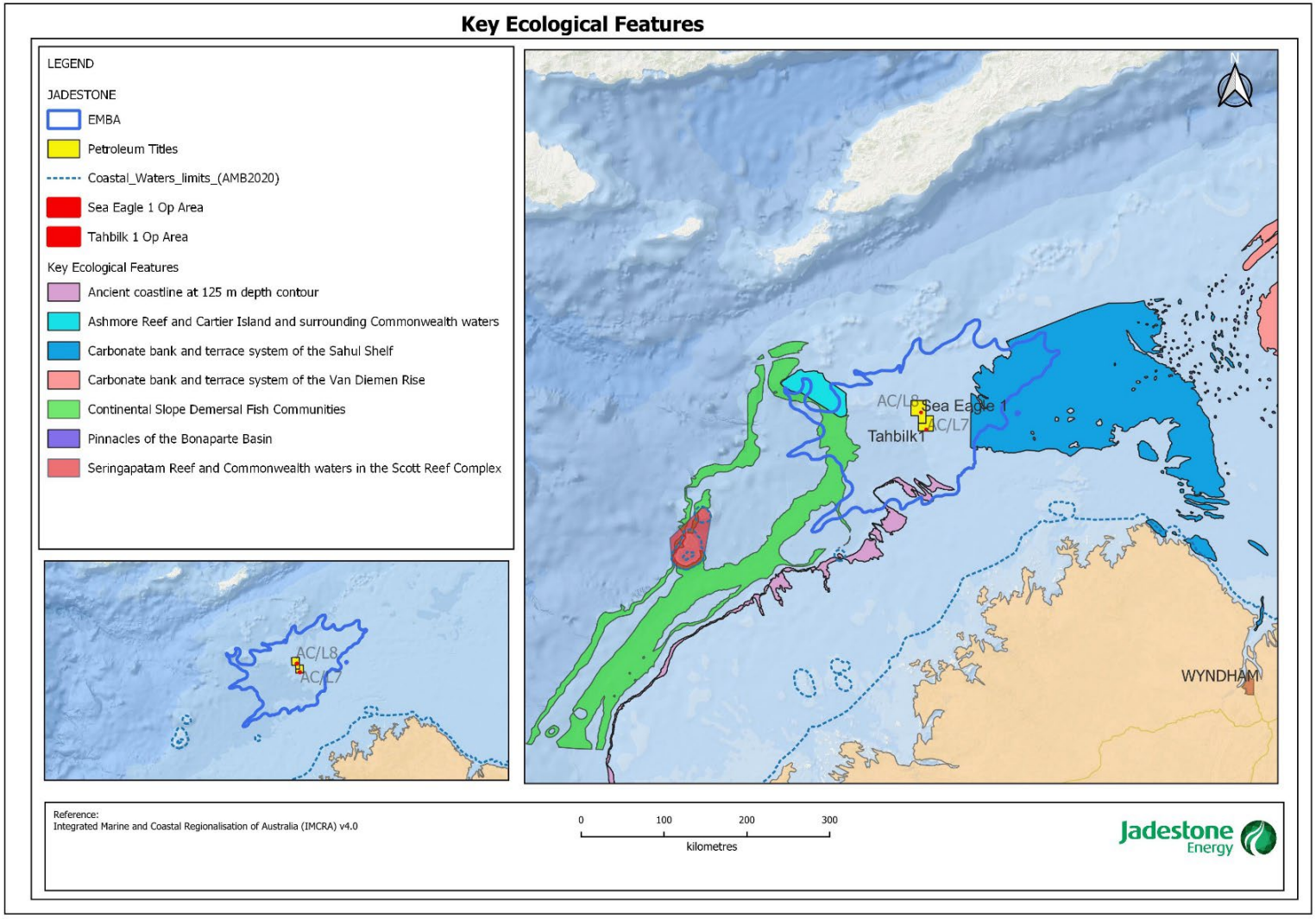


Figure 4-9 Key Ecological Features within the EMBA

4.2 Social Values

4.2.1 Commercial Fishing

Four Commonwealth (Figure 4-10) and twelve WA state fisheries (Figure 4-11 to Figure **4-13**) overlap the EMBA. A number of fisheries are permitted to operate in the Operational Area, however for many of these fisheries, the area is either not appropriate for the collection method or does not contain habitat for the species targeted. Of these, only two fisheries have potential for fishing effort to occur in the Operational Area, the Western Tuna and Billfish Fishery and the Northern Demersal Scalefish Managed Fishery. Section 4.2.1.1. and 4.2.1.2 provide a description of fisheries that may occur within the Operational Area and EMBA. The Australian Fisheries Management Authority (AFMA) manages all Commonwealth fisheries under the Fisheries Management Act 1991.

4.2.1.1 Commonwealth Fishing

Western Tuna and Billfish

The Western Tuna and Billfish Fishery extends westward from Cape York Peninsula, Queensland, down the West Australian coast and eastward across the Great Australian Bight to the South Australian–Victorian border.

This fishery targets broadbill swordfish (*Xiphias gladius*), albacore tuna (*Thunnus alalunga*), striped marlin (*Kajikia audax*), bigeye tuna (*T. obesus*) and yellowfin tuna (*T. albacares*). In recent years, fishing effort has concentrated off south-west Western Australia and South Australia, however commercial fishers of this fishery will potentially be active within both the EMBA and the Operational Area (Department of Agriculture 2019). The total catch was 196 t in the 2023 season with five active vessels (DAFF 2024).

Northwest Slope Trawl Fishery

The Northwest Slope Trawl Fishery extends from 114° E to approximately 125° E off the WA coast between the 200 m isobath and the outer limit of the Australian Fishing Zone (AFZ). The fishery targets scampi, including Australian scampi, velvet scampi and Boschma's scampi.using demersal crustacean trawl methods seaward of the 200 m isobath. Total catch in 2022–2023 was 85.4 t with three active vessels using primarily demersal trawl methods (DAFF 2024). This fishery overlaps the Operational Area and EMBA for Sea Eagle and the EMBA for Tahbilk and should be considered relevant in the event of a significant hydrocarbon spill.).

Western Skipjack Tuna Fishery

The Western Skipjack Fishery is part of the Skipjack Tuna Fishery, which contains two stocks: one to the east and one to the west, that are assessed separately but managed together under various management arrangements and general conditions in addition to the Fisheries Management Act 1991. The Western Skipjack Fishery targets only skipjack tuna *Katsuwonus pelamis*. While the EMBA overlap the fishery, effort within the fishery is confined to the southern coast of Australia, several thousand kilometres away. No fishing effort has been recorded anywhere in the fishery since the 2008-2009 season (ABARES 2024).

Southern Bluefish Tuna Fishery

The Southern Bluefin Tuna Fishery targets southern bluefin tuna (*Thunnus maccoyii*) under the Southern Bluefin Tuna Fishery Management Plan 1995. No current effort in north-western Australia, fishing activity is concentrated in the Great Australian Bight (DAFF 2024).Southern bluefin tuna spawn in the North West Shelf region of Western Australia between September and March. The larvae may be seasonally abundant in surface waters of the broader region during these months and migrating adult tuna may transit through the EMBA.

4.2.1.2 Western Australian state fisheries

The Department of Primary Industries and Regional Development (DPIRD), fisheries division, manages WA state fisheries under the Fisheries Management Act 1991.

Northern Demersal Scalefish Managed Fisheries

The Northern Demersal Scalefish Fisheries includes the Pilbara Demersal Scalefish Fisheries (Pilbara Fish Trawl Managed Fishery, the Pilbara Trap Managed Fishery and the Pilbara Line Fishery).

PDSF licence holders operate within "Pilbara waters" (all waters bounded by a line commencing at the intersection of 21°56'S latitude and the highwater 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.)

The PDSF collectively use a combination of vessels, effort allocations (time), gear limits, plus spatial zones (including extensive trawl closures) as management measures. The main species landed by the fisheries in the Pilbara subregion are bluespotted emperor, red emperor, and rankin cod.

Fishing effort for 2023–2024 was 1,450 t. Seven vessels fished in the 2020 fishing season (Newman et al. 2024), further consultation with Northern Demersal Scalefish identified 11 licenses across 6 vessels.

This fishery overlaps the Operations area. Commercial fishers will be potentially active in this region.

Broome Prawn Fishery

The Broome Prawn managed fishery primarily targeted western king prawns. Negligible fishing effort occurred, with only two boats undertaking trial fishing activities in 2023. Catches were deemed to be too low to undertake further fishing activity (Newman et al. 2024).

Specimen Shell Managed fishery

The Specimen shell fishery covers all Western Australian waters from the high-water mark to the 200 m isobath with concentration of effort in areas adjacent to Broome, Exmouth, Shark Bay, Geraldton, Perth, Mandurah, the Capes area, Albany and Esperance The primary method of collection is via hand while diving and wading along the coastal beaches, however a small number of operators utilise ROV's.

Of the 30 licences in the fishery, 18 vessels were active with a total catch in 2023–2024 was 5,807 shells (Newman et al. 2024).

Marine Aquarium Fish Managed Fishery

The marine aquarium fish fishery encompasses all WA State waters between the Northern Territory border and South Australian border. The fishery is typically diver -based and more active in waters south of Broome with higher levels of effort around the Capes region, Perth, Geraldton, Exmouth, Dampier, and Broome. There is also recent effort in the waters from Broome northwards to the NT border. The fishery has the capacity to target 1500 marine aquarium fish species (Newman et al. 2024).

Catch effort in the 2023–2024 was 20,604 individuals with 11 out of 12 licences active (Newman et al. 2024).

West Coast Deep Sea Crustacean

The fishery operates off the WA coast from 34°2'S to the NT border, from the 150 m isobath out to the Australian EEZ. Fishery uses baited pots operated in a long-line formation in shelf edge waters (>150 m) of the West Coast and Gascoyne Bioregions (Newman et al. 2024). Most catch is in waters 500–800 m deep (WAFIC 2025) and landed primarily in ports between Carnarvon and Fremantle.

Catch effort for the 2023–2024 season totalled 123.1 t of crystal crab, 1.7 t of champagne crab and 0.14 t of giant crab with three active vessels (Newman et al 2024)

Sea cucumber

The Western Australian Sea Cucumber Fishery is a commercial only fishery, with animals caught principally by diving, and a smaller amount by wading. Fishing occurs mostly in the northern half of the State from Exmouth Gulf to the Northern Territory border. In 2023, Shark Bay was fished for the fourth consecutive year. Total catch in 2023 was ~126t and 3 commercial vessels were active (Newman et al, 2024).

Pearl oyster fishery

This fishery targets only the silver lipped pearl oyster (Pinctada maxima) and operates from Exmouth to the NT border. It is a quota-based dive fishery, operating in shallow coastal waters along the north coast bioregion (Newman et al 2024).

Dive based fishery with oysters collected individually as divers are towed behind the fishing vessel, using surface supplied air (Fletcher et al. 2006).

Catch effort for 2023–2024 in zone 2/3 was 923,140 oysters and five vessels were active (Newman et al 2024).

Abalone managed fishery

The Abalone Managed Fishery is active in the southern region of Western Australia. Fishing methods are dive and wading. No commercial fishing for abalone north of Moore River (Area 8 of the managed fishery) has occurred since 2011–2012 (Strain et al. 2023).

Kimberly prawn fishery (now part of North Coast Prawn Managed Fishery)

In June 2025 this was combined with Broome Prawn, Kimberley Prawn and Onslow and Nickol Bay Prawn Managed Fishery under what now called North Coast Prawn Managed Fishery.

The jurisdiction of the Kimberley Prawn Managed Fishery overlaps the EMBA. The gear used consists of otter trawls and is typically restricted to depths less than 60 m. The Kimberley Prawn managed fishery primarily targeted banana prawns with a total catch of ~107.9 t in 2023–2024 (Newman et al. 2024). There are two fishing periods for the season (April to mid-June; August to end of November).

Kimberley Crab

The Kimberley Crab Fishery operates off the north-west coast of WA in WA waters.

Fishing effort is concentrated in nearshore waters and targets brown mud crab species between April and September (Johnson et al. 2023). The total catch declined from 2.38 t in 2022 to 0.45 t in 2023 with trap fishing undertaken in York Sound, Admiralty Gulf, and Cambridge Gulf mostly between April and May (Newman et al 2024).

Mackerel managed fishery

The Mackerel Fishery fishing effort is typically concentrated in the North Coast Bioregion, which encompasses the Pilbara and Kimberley coastline (Lewis and Rynvis 2023).

Dominant fishing method is trolling, also with jigging methods also used to catch grey mackerel in some areas (Mackie et al. 2010).

Catch effort in the 2023–2024 was 159 t in the Kimberley region with 5 active vessels (Newman et al 2024).

Southwest Coast Salmon

The South West Coast Salmon Managed Fishery operates on various beaches south of the metropolitan area and includes all Western Australian waters north of Cape Beaufort except Geographe Bay. No fishing takes place north of the Perth metropolitan area (well beyond the Planning Area), despite the managed fishery boundary extending to Cape Beaufort (Western Australia/ Northern Territory border).

4.2.2 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 will 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.

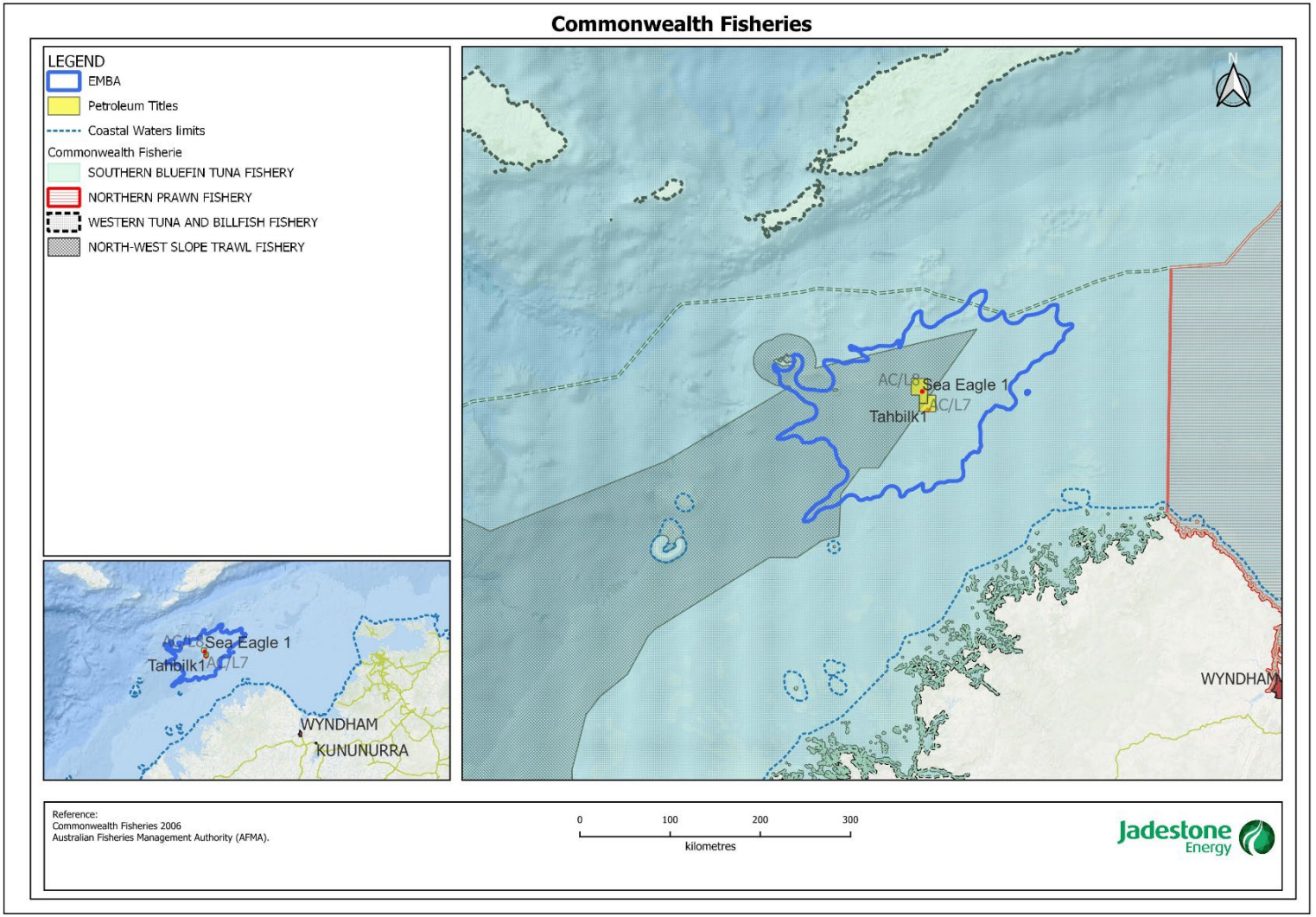


Figure 4-10 Commonwealth Fisheries within the EMBA

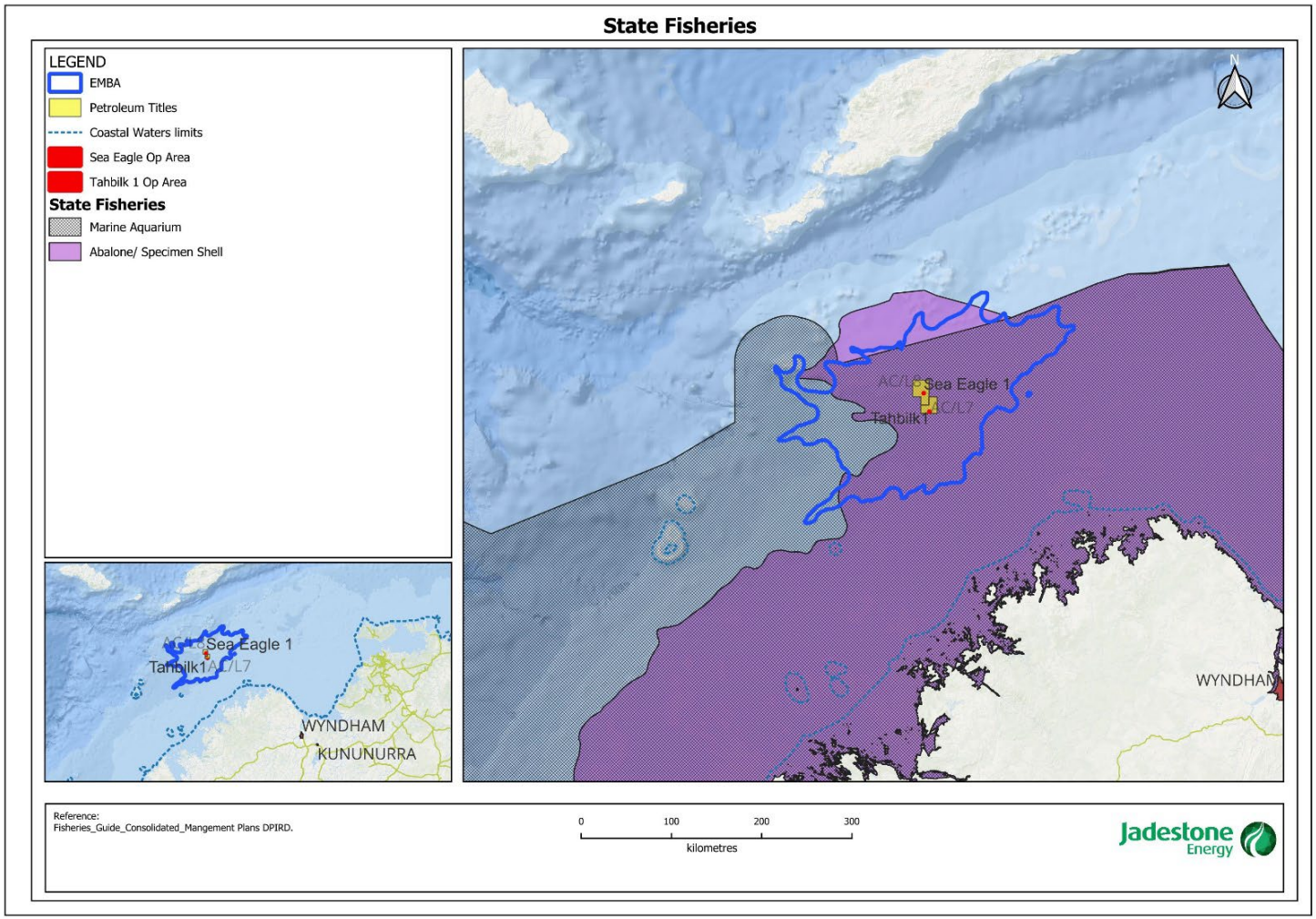


Figure 4-11 State Managed Fisheries within the EMBA (1)

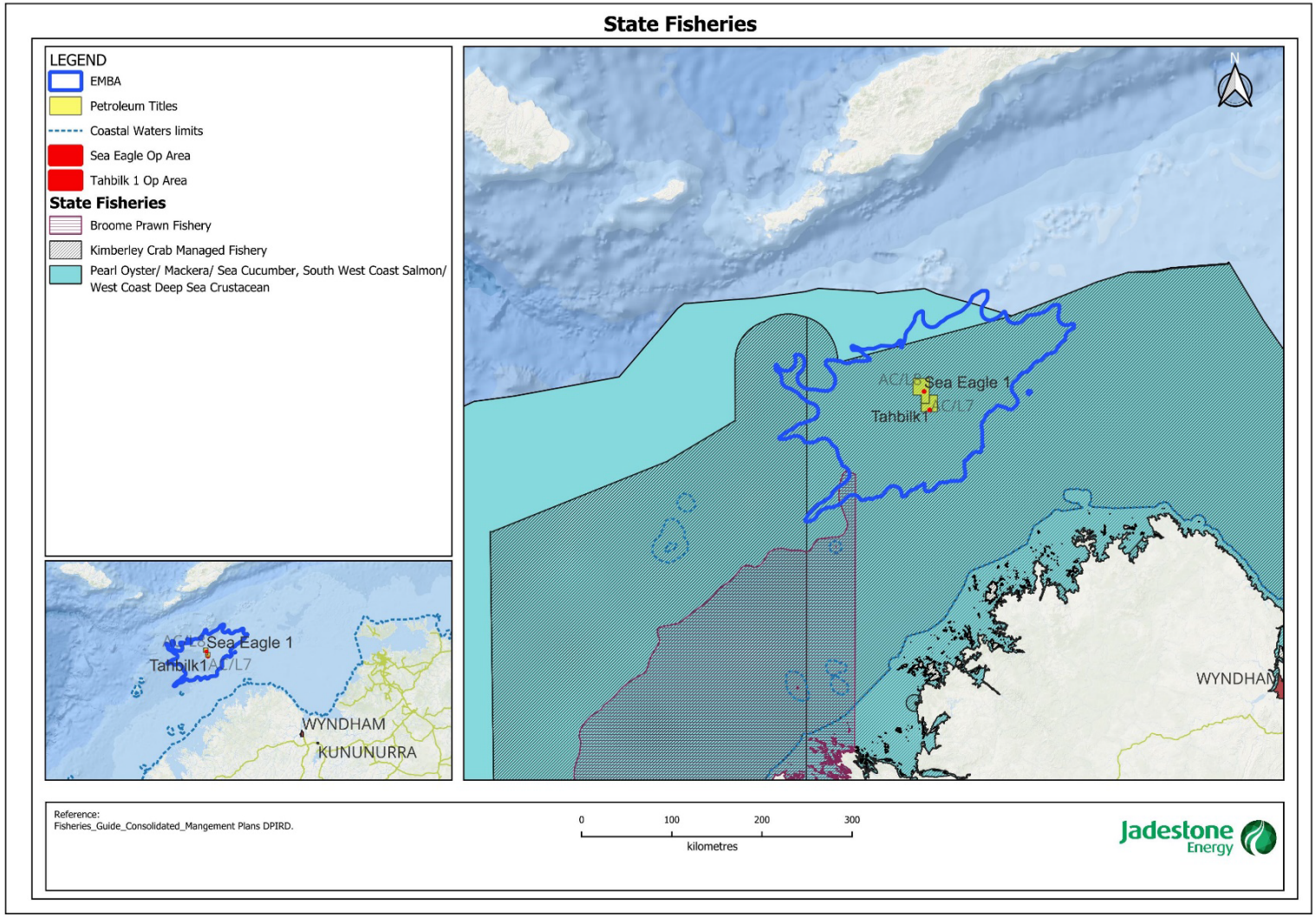


Figure 4-12 State Managed Fisheries within the EMBA (2)

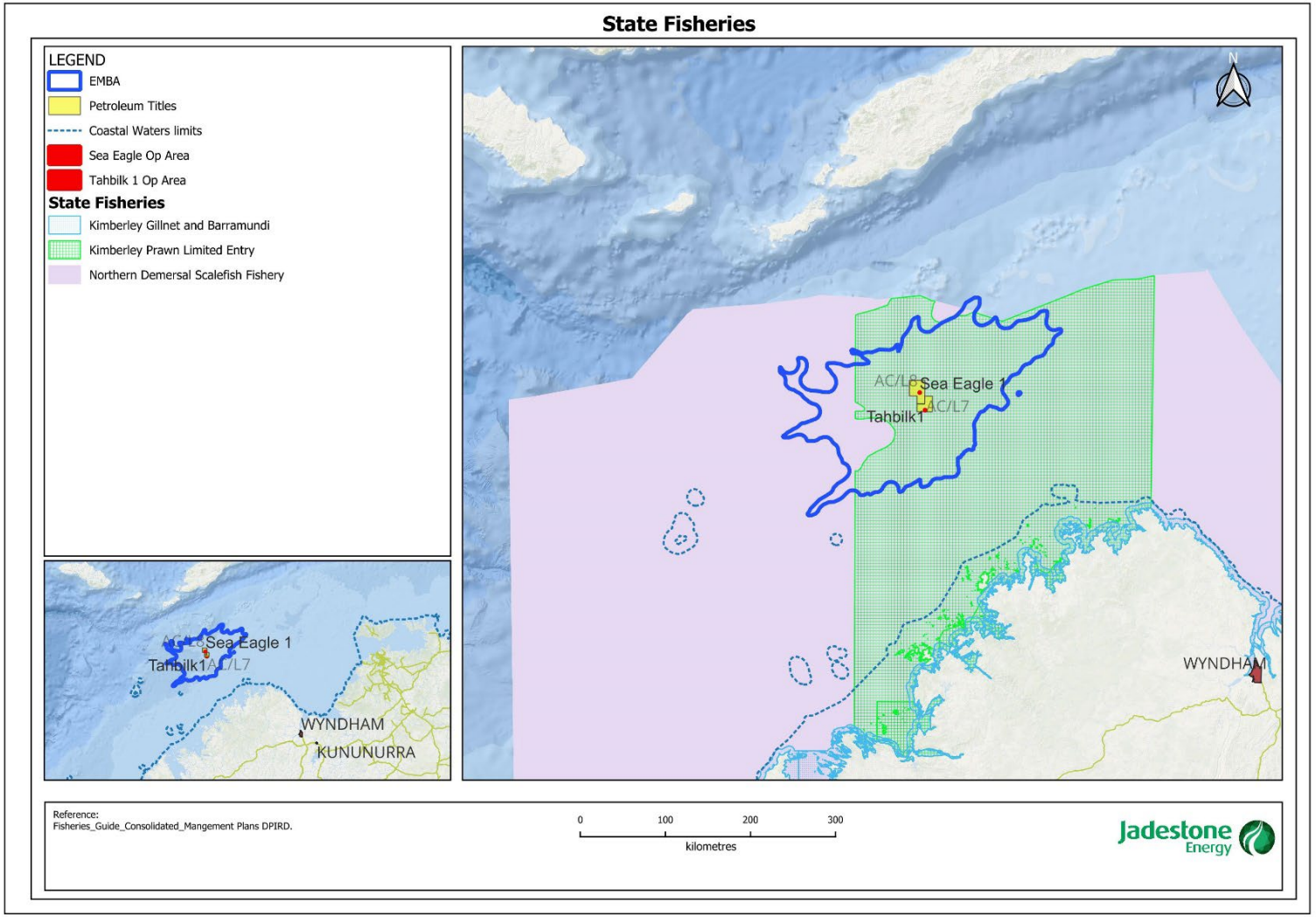


Figure 4-13 **State Managed Fisheries within the EMBA (3)**

4.2.3 Customary fishing

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.

4.2.4 International subsistence fishing

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). 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 will pass through the EMBA to reach these fishing grounds (BHP 2007).

4.2.5 Aquaculture

Aquaculture within the vicinity of the EMBA 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, which lie outside 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).

4.2.6 Commercial Fish, Sharks and Ray species spawning

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) (Figure 4-10). None of these species are listed as threatened; however, they are commercially valuable.

4.2.7 Shipping and vessel movements

Heavy vessels following the charted Osborn Passage will pass through both permits to the north of the Montara Field. 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 development at the WHP and subsea fields AC/L7 and AC/L8, direct interaction with ABF or RAN vessels is not expected to occur.

Shipping activity over the past three years in the waters within the EMBA were mapped using AMSA's Craft Tracking System and shown in Figure 4-14.

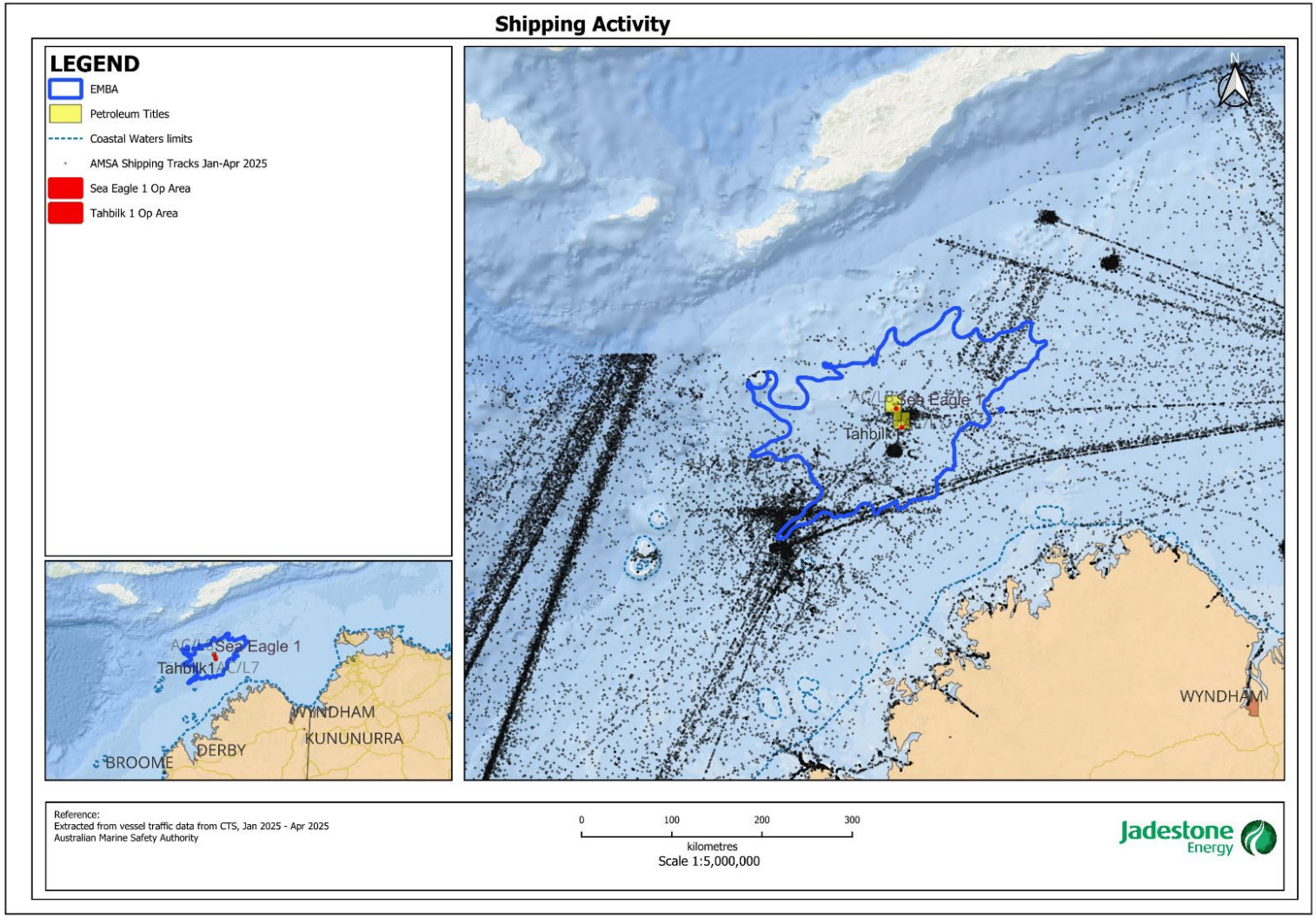


Figure 4-14 Shipping activity within the EMBA)

4.2.8 Oil and Gas Industry

There are numerous exploration and production oil and gas operators in the region. The closest to the WHP and subsea fields AC/L7 and AC/L8 include Auriga West 1 (Shell) and the Maple wells (PTTEP) which are 34 and 59 km away respectively. See Figure 4-15.

Table 4-11 Titleholders in vicinity of EMBA

Main 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, AC/P50
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
Total E&P Australia Exploration Pty Ltd	AC/P60

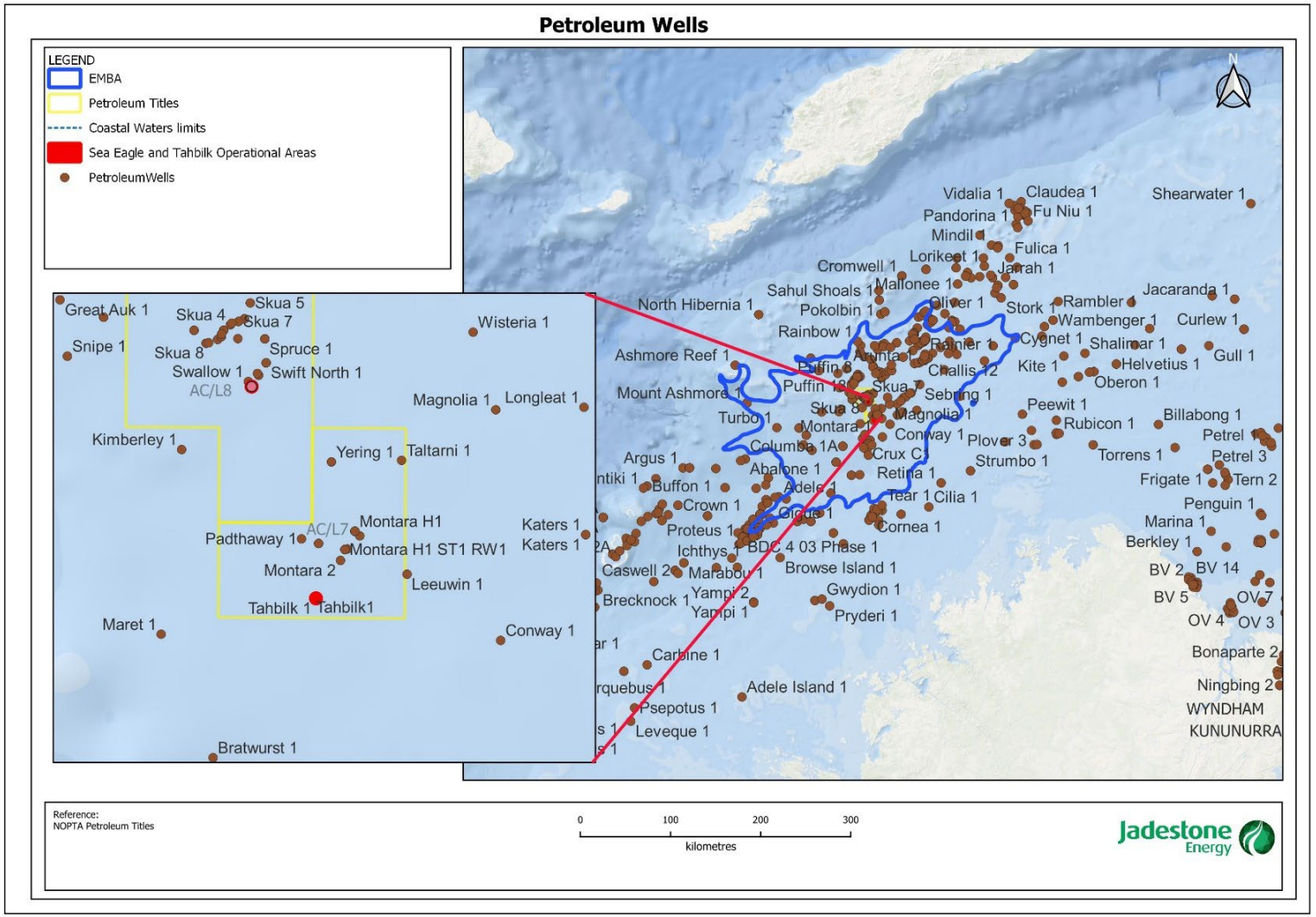


Figure 4-15 Oil and Gas Infrastructure within the EMBA

4.2.9 Defence

The two closest defence training areas to the WHP and subsea fields AC/L7 and AC/L8 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.

4.2.10 Tourism

The tourism activities likely to occur within the EMBA (e.g. recreational fishing and boating and charter boats operations) tend to be focussed around nearshore waters, islands and coastal areas. Some charter operations access islands and reefs (including Scott Reef, Ashmore Reef, Cartier Island and Ningaloo Reef) as part of regular itineraries.

4.2.11 Population Centres

4.2.11.1 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.

4.2.12 Native Title

Aboriginal peoples continuing connection to country is recognised in Australia under both State/ Territory and Commonwealth legislation. The Native Title Act 1993 (Commonwealth) is legislation passed by the Australian Parliament that recognises the rights and interests of Aboriginal and Torres Strait Islander people in land and waters according to their traditional laws and customs (CoA 2023). Any sheen or impact on environmental values may impact the associated cultural values or use. The National Native Title Tribunal *Native Title Vision* (NTV) search identified that there is no registered native title within the Operational Area and within the EMBA. The closest registered native title body corporate is provided in more detail in Section 4.2.13.2 below. There are no registered or notified Indigenous Land Use agreements that overlap the EMBA.

4.2.13 Cultural Heritage

4.2.13.1 Underwater Cultural Heritage

Underwater cultural heritage sites are recognised as a part of the marine environment ecosystem. Under the Underwater Cultural Heritage Act 2018 (Cwlth) any shipwrecks, sunken aircraft or other types of cultural heritage over 75 years old are automatically afforded protection. Under this Act, there is also a provision to provide protection zones, that can range from 200 m to 3,200 m radius, surrounding the wrecks. These zones are in place to limit disturbance of the cultural heritage and also the surrounding environment.

There are no recorded historic shipwrecks or shipwreck protection zones within the Operational Area. 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 Operational Area (DEWHA 2008b).

4.2.13.2 Cultural Heritage

Australian Aboriginal and Torres Strait Islander heritage is recognised as the oldest continuing culture in the world and is central to Australia's national heritage (DCCEEW 2023).

A search of the Department of Planning, Lands and Heritage Aboriginal Heritage Inquiry System (AHIS) within the EMBA reported there are no Registered or Lodged Aboriginal Cultural Heritage sites, and no Heritage surveys. They are predominantly located along the coastline or on islands. Through ongoing

engagement with First Nations people, Jadestone continues to seek further information on relevant cultural values for this activity. In the absence of specific details from the First Nations People, Jadestone have completed their own research into potential areas of importance.

Brue reef (known as Moonyjangid) has been identified by a number of PBCs as having significance, it is a planar (or platform) reef characterised by a flat topped platform that is usually emergent only at low tide (Collins et al., 2016). Planar reef surfaces have distinctive lithified algal terraces and coralline algae, as well as Porites microatolls which are often prolific. Small reef flat pools with healthy corals may also be present. The reef was historically an important source of food (turtles, trochus shells, clams) to the traditional owners and therefore retains cultural significance for these PBCs. The limited research at Brue reef undertaken as part of the WAMSI research (Collins et al., 2016) was assisted by the Bardi Jawi, Mayala and Dambimangari people, the Traditional Owners of these lands. Further a grant from Parks Australia in 2022 has facilitated a voyage to Brue Reef to increase understanding of the cultural significance and marine values of Mayala Traditional Owner Sea Country. This knowledge will inform the development of a monitoring approach at Brue Reef, facilitate management of natural and cultural values and foster ongoing relationships between Parks Australia and Traditional Owners. No native title exists on Brue Reef (AIATSIS, 2010), however, in areas seaward of the mean high watermark, the native title rights and interests include the right to access, move about, in and on and use and enjoy those areas, the right to hunt and gather including for dugong and turtle, the right to access, use and take any of the resources thereof (including water and ochre) for food, trapping fish, religious, spiritual, ceremonial and communal purposes.

Three native title bodies corporate (RNTBC) hold, protect and manage determined native title for many of the islands and the coastal country located in the vicinity of the EMBA but none overlap (Figure 4-16).

Wanjina-Wunggurr Aboriginal Corporation

The Wanjina-Wunggurr Aboriginal Corporation represents, protects and supports the interests of the Wunambal Gaambera, Wororra and Ngarinyin people. The Wunambal Gaambera people are the traditional owners of the coast and sea country in the north Kimberley region. There are strong customary practices for collecting and harvesting fish and other seafoods from reefs and mangroves. Wororra people own the Dambimangari Country in the northeast Kimberley, which includes extensive sea country. Ngarinyin people own the Willinggin Country located inland of the other two title claims.

Mayala Inninalang Aboriginal Corporation

The Mayala Inninalang Aboriginal Corporation represents, protects and supports the interests of the Mayala people. The Mayala people are the traditional owners of hundreds of islands, interconnecting seas and reefs in the Kimberley's Buccaneer Archipelago and King Sound. The Mayala people are saltwater people with a unique island culture and deep knowledge of the complex currents and tides in their Sea Country. Brue Reef, located approximately 12 nautical miles off the coast of the Dampier Peninsula (NTN 2010) and within the Kimberley Marine Park holds cultural significance for the Mayala people, with many journeys undertaken historically on specific tides for collection of culturally important reef species such as the trochus shell (Parks Australia 2022).

Balanggarra Aboriginal Corporation

The Balanggarra Aboriginal Corporation represents, protects and supports the interests of the Balanggarra people. They are the traditional owners of 2.9 m ha of land and waters across the northeast Kimberley. The northern boundary runs through sea country and encompasses several islands near the coast, including the Sir Graham Moore Islands, Adolphus Island and Reveley Island. There are strong traditions to collect and harvest saltwater fish and other sea-foods from the open sea and reefs. Mullet, silver bream, coral trout and stingrays are all caught along rocky coast or shallow water. Other seafoods collected includes oysters, cockle shells and Baler shells.

4.2.13.3 Sea Country

Many Aboriginal and Torres Strait Islander peoples have a close, long-standing relationship with coastal and marine environments and continue to rely on these environments and resources for their cultural identity, health and wellbeing, as well as their domestic and commercial economies (CoA, 2012). Sea country refers to the areas of the sea that Aboriginal people are particularly affiliated with through their traditional lore and customs. It is recognised that spiritual corridors extend from terrestrial areas into nearshore and offshore waters, a number of marine animals are totems for Indigenous people, and that songlines pass through marine parks.

Sea Country is an important part of First Nations peoples culture and whilst the many coastal and island First Nations groups around Australia have different languages and their own unique belief systems, ceremonies and relationships with Country, they all regard the estuaries, beaches, bays and marine areas, or Sea Country, as essential parts of their traditional estates.

First Nations groups who reside along the coasts or on islands believe that Sea Country contains the evidence of creation stories, about animals, plants and people, as well as the creation of landscape features such as islands and reefs. Coastal and island communities held cultural responsibilities to ensure Sea Country is cared for and Sea Country was managed very carefully, and they are playing an increasingly important role in the management of their Sea Country, through formalised roles and programs that work alongside various State and Commonwealth government structures.

Values and sensitivities regarding Sea Country may include different features such as:

- Historic and contemporary cultural harvesting of marine fauna and flora
- Sea and landscape features that hold dreamtime and creation stories, such as offshore islands; and
- Different marine and avian species that hold deep connections to lore and represent spiritual emblems.

Within Australian waters and coastline that may be affected in the broader EMBAs, there are many values of cultural significance, with numerous shipwrecks and heritage sites. 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.

It is recognised that spiritual corridors extend from terrestrial areas into nearshore and offshore waters, a number of marine animals are totems for indigenous people, and that songlines pass through marine areas. Aboriginal totems are symbols taken from nature, such as a plant or animal, that are inherited by members of a community as their spiritual emblem. Marine species described as totems therefore possess significant cultural importance to Aboriginal Australians.

4.2.13.4 Indigenous Protected Areas

Indigenous Protected Area (IPAs) are areas of land and sea that Traditional Owners have agreed to manage for biodiversity conservation. IPAs deliver environmental, cultural, social and economic benefits through implementation of agreed management plans. This includes Sea country IPAs to protect areas with unique marine and coastal environments. There is one Sea Country IPA that is located outside the EMBA, Tukujana pa Karajarri Kura Jurrar and it expands the existing Karajarri IPA into the sea off the south-west Kimberley coast. The area includes a network of coastal habitats, such as intertidal and subtidal reefs, mangrove systems, lagoons and tidal creeks and will connect the Ramsar sites of Roebuck Bay and 80-mile beach. The area is an important dugong sanctuary and provides habitat for around 450,000 birds.

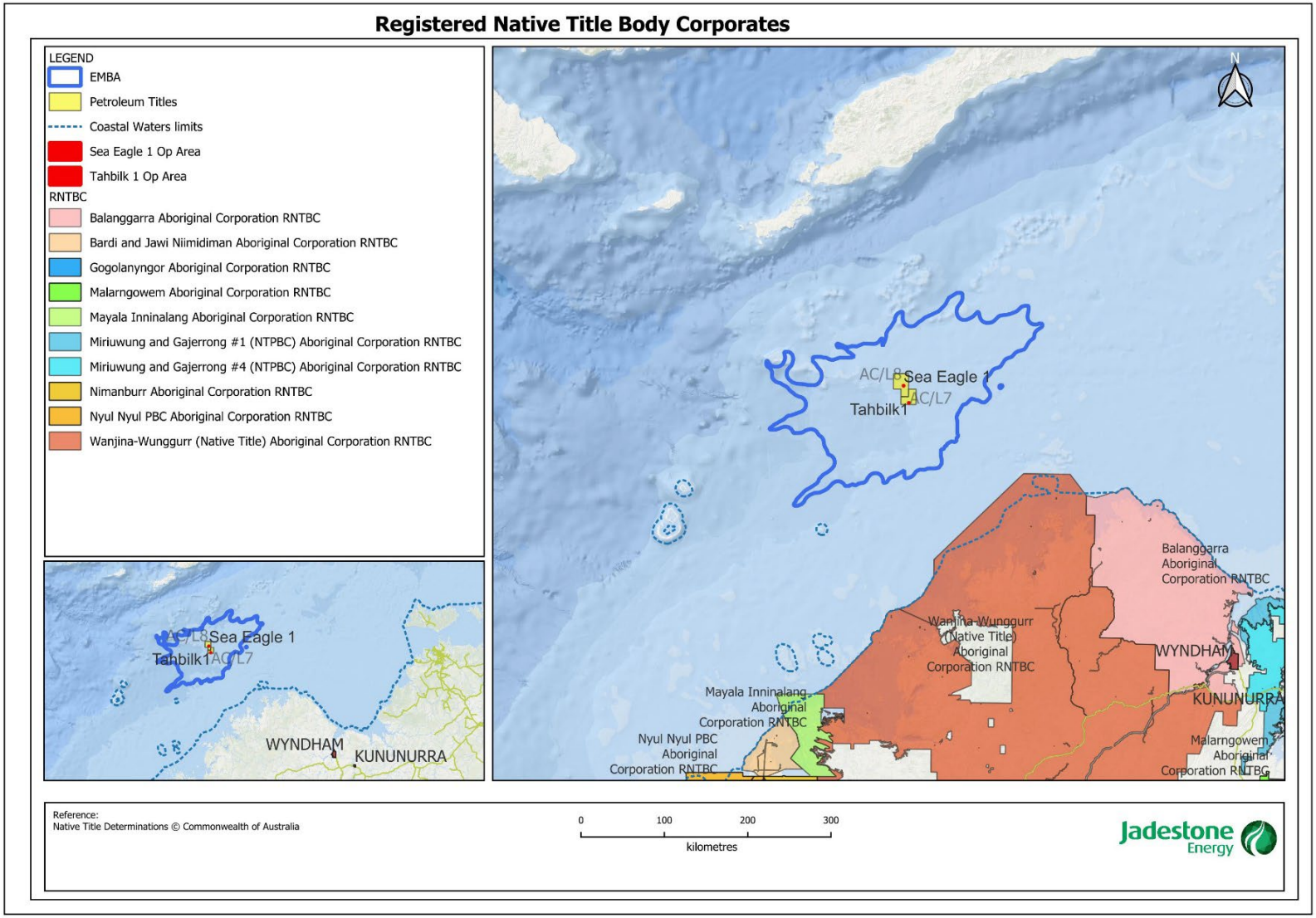


Figure 4-16 Registered Native Title Bodies Corporate

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Sea Eagle-1 and Tahbilk-1 Vessel Based Activity Environment Plan

TM-50-PLN-I-00004

Rev 3

APPENDIX C – CONSULTATION

Appendix C1: Current Sea Eagle and Tahbilk Consultation Report

Appendix C2: Historical Sea Eagle and Tahbilk Consultation

Appendix C1 – Current Sea Eagle and Tahbilk Consultation Report

Commonwealth government department or agency					
Australian Communications and Media Authority (ACMA)					
Summary of consultation effort and relevant person responses					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
08-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_1	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.	Response assessed. Refer to 'summary or relevant person response' below for details.
22-Mar-23	SENT	How: Email	ACMA_1	Jadestone will contact Vocus and forthcoming submarine cable projects.	No further action
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
1-Aug-23	RECEIVED	How: Email	ACMA_2	Acknowledgement of receipt and no additional comments to original feedback provided.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
Montara facility is not within the vicinity of a protection zone in relation to submarine cables of national significance.		Noted.		No further action required.	
ACMA encouraged Jadestone to contact owners of submarine cables in the vicinity.		JSE considers these comments have merit and have actioned.		Jadestone contacted Vocus and any forthcoming submarine cable projects.	
Australian Fisheries Management Authority (AFMA)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to	No further action.

				stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
Noted the importance of consulting with all fishers who have entitlements to fish within proposed area, either through the relevant fishing industry associations or directly with fishers.		JSE considers these comments have merit and have incorporated these into the EP.		In accordance with this guidance, as part of Jadestone's standard approach to consultation the relevant fishing industry associations and/or individual fishers have been engaged with during the development of the EP. No additional measures or controls are required.	
Australian Hydrographic Office (AHO)					
Date	***Date***	***Date***	***Date***	***Date***	***Date***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action
11-Jul-24	SENT	How: Email	AHO_1	Email sent to advise of tentative schedule to install subsea well monitoring systems.	Awaiting response
11-Jul-24	RECEIVED	How: Email	AHO_1	Acknowledgement email.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. Confirmed receipt of email and noted that data will be registered and charts updated.		Noted		No further action required.	
Australian Maritime Safety Authority (AMSA)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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 'summary of relevant person response' below for detail.	Response assessed and EP updated to include notifications.
21-Feb-23	SENT	How: Email	AMSA	Acknowledgement of email.	No further action
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.

A summary of the relevant person response, objection or claim (Reg 24(b)(i))	*Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))*	*Titleholders response (Reg 24(b)(iii))* *Measure adopted in the EP in response to consultation (where relevant)*
21.12.22 AMSA requested JSE (Ref AMSA): * Australian Hydrographic Office (datacentre@hydro.gov.au) to be contacted no less than 4 working weeks prior to operations commencing for the promulgation of related notices to mariners.	JSE considers these comments have merit and have incorporated these into the EP.	JSE confirmed it will comply with AMSA requests. • Item included in Table 4-7 to ensure notification 4 working weeks prior to commencement.
21.12.22 AMSA requested JSE (Ref AMSA): Notify AMSA's Joint Rescue Coordination Centre (JRCC) (rccaus@amsa.gov.au, Ph 1800 641 792) 24-48 hrs prior to operations commencing and at cessation of operations.	JSE considers these comments have merit and have incorporated these into the EP.	JSE confirmed it will comply with AMSA requests. • Item included in Table 4-7 to ensure notification 48 hours prior to operations commencing and at cessation.
21.12.22 AMSA requested JSE (Ref AMSA): Plan to provide updates to both the Australian Hydrographic Office and the JRCC on progress and, importantly, any changes to the intended operations.	JSE considers these comments have merit and have incorporated these into the EP.	JSE confirmed it will comply with AMSA requests. Item included in Table 4-7 to ensure notification to AHO and JRCC.

Clean Energy Regulator

Date	*To/from*	*Engagement logistics*	*Reference number*	*Summary of content*	*Action undertaken status*
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
3-Mar-23	RECEIVED	How: Email	CER_1	Email advising no comment from CER.	Noted
22-Mar-23	SENT	How: Email	CER_1	Acknowledgement of email.	No further action
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.

A summary of the relevant person response, objection or claim (Reg 24(b)(i))	*Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))*	*Titleholders response (Reg 24(b)(iii))* *Measure adopted in the EP in response to consultation (where relevant)*
No objection, concern or claim No comments on the proposed activity.	Noted.	No further action required.

Department of Agriculture, Fisheries and Forestry (DAFF)

Date	*To/from*	*Engagement logistics*	*Reference number*	*Summary of content*	*Action undertaken status*
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. Provided information on general biofouling management requirements.		JSE considers these comments have merit and have actioned.		Biofouling management is covered under Jadestone's Biosecurity Manual and has been included in the EP (Section 7.1 Marine Pest Introduction).	

Department of Defence (DOD)

Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
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.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
Activity is located outside any Defence Training Areas and restricted airspace.		Noted.		No further action required.	
Advised of risk of UXOs. Continued liaison with AHS for Notice to Mariners required.		JSE considers these comments have merit and have incorporated these into the EP.		Item included in Implementation section of the EP (Table 4-7) to ensure AHS notification three weeks prior to commencement of activities.	

Department of Foreign Affairs and Trade (DFAT)

Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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	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.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. No comments on the proposed activity.		Noted.		No further action required.	
Department of Industry, Science & Resources (DISR)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Director of National Parks (DNP), Parks Australia, part of the Department of Climate Change, Energy, the Environment and Water (DCCEEW)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
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.

28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. Confirmed no authorisation required as outside AMP and no objections or claims at this time.		Noted.		No further action required.	
Link to guidance note on Marine Parks provided.		JSE considers these comments have merit and have incorporated these into the EP.		Guidance note is referenced in EP.	
When preparing the EP AMP values and representativeness should be considered and all impacts and risks to AMPs identified and shown to be managed to acceptable level and ALARP. Consistency with the management plans should also be included.		JSE considers these comments have merit and have incorporated these into the EP.		EP has been drafted to include information on the AMPs. With no AMP in the operational area there is not expected to be any impact from planned activities on any AMPs.	
Notification details in the event of an incident provided.		JSE considers these comments have merit and have incorporated these into the EP.		Triggered consultation item included (Table 4-8) to notify AMP DG if any change to planned activity that results in change in risk to AMP.	
DNP should be made aware of oil/gas pollution incidences which occur with a marine park or are likely to impact on a marine park as soon as possible. Notification should be provided to the 24-hour Marine Compliance Duty Officer.		JSE considers these comments have merit and have incorporated these into the EP.		Item included in Implementation section of the EP (Table 4-8) to ensure DNP notification in event of an oil/gas pollution incident.	
Maritime Border Command (MBC), part of Australian Border Force (ABF), part of the Department of Home Affairs (DHA)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
7-Sep-23	PLACED	How: Call	N/A	Called to follow up if emails received. Message passed on and most appropriate person will call back.	Awaiting return phone call
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
National Offshore Petroleum Titles Administrator (NOPTA)					
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.
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.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. No comments on the proposed activity.		Noted.		No further action required.	

Office of Northern Australia (ONA), within the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDC)

Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
19-Dec-22	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	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.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
16-Nov-23	SENT	How: Email	ONA	Suitable contact number not known. Email sent following up to see if previous correspondence and information package was received and asking to provide contact details of most appropriate person to contact.	Awaiting response.
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	

WA Government Department or Agency

Department of Biodiversity, Conservation and Attractions (DBCA)

Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.

28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation
27-Sep-23	SENT	How: Email	DBCA_1	Email seeking advice on training requirements and if a licence is required to handle an injured bird.	Awaiting response.
11-Oct-23	SENT	How: Email	DBCA_1	Follow up email.	Awaiting response.
11-Oct-23	SENT	How: Email	DBCA_1	Email confirming licence is not required.	Noted. No further action.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. No comments on the proposed activity.		Noted.		No further action required.	
Department of Mines, Petroleum and Exploration (DMPE) (previously DMIRS)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
19-Apr-23	PLACED	How: Call	N/A	Called DMIRS to confirm receipt of information package. Unable to confirm if package received. Asked to resend to different email.	Information package sent to updated email.
19-Apr-23	SENT	How: Email	DMIRS	Email sent to DMIRS with information package.	Awaiting response.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Department of Planning, Lands & Heritage (DPLH)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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	DPLH	Acknowledgement of email.	No further action
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. No comments on the proposed activity.		Noted.		No further action required.	

Department of Primary Industries and Regional Development (DPIRD)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
26-Apr-23	PLACED	How: Call	N/A	Left a message asking DPIRD to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
11-Aug-23	RECEIVED	How: Email	DPIRD	Email thanking for update and advising no comment from DPIRD with regards to the updated EMBA.	Noted. No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. No comments on the proposed activity.		Noted.		No further action required.	

Department of Water & Environmental Regulation (DWER)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.

28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
28-Jul-23	RECEIVED	How: Email	DWER_AutoResponse_3	Auto Response email received.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. No comment on proposed activity. Suggested DMIRS to be more appropriate department to provide comment.		JSE considers these comments have merit and have addressed the question.		DMIRS is already a Relevant Person and JSE is already in contact with them. No further action required.	
Oil and Gas Industry					
Australian Maritime Oil Spill Centre (AMOSC)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
16-Nov-23	PLACED	How: Call	N/A	Called AMOSC to confirm receipt of information package. Unsure if package received. Asked to send through again.	Information package resent.
16-Nov-23	SENT	How: Email	AMOSC	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.
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation.
30-Nov-23	RECEIVED	How: Email	AMOSC_1	Email asking Jadestone to verify contents of OPEP are consistent with AMOSC's Service Level Statement.	Email sent requesting Service Level Agreement.
20-Dec-23	SENT	How: Email	AMOSC_1	Email asking for updated Service Level Statement to be sent to ensure OPEP aligns.	Awaiting response.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
15-Mar-24	RECEIVED	How: Email	AMOSC_2	Acknowledgement of receipt.	No further action.
27-Mar-24	SENT	How: Email	AMOSC_1	Email sent confirming OPEP in line with SLS and attaching most up to date OPEP for review.	Awaiting response.
3-Apr-24	RECEIVED	How: Email	AMOSC_3	Email received in relation to Montara Ops and Skua EP with comments around equipment and personnel numbers.	Comments included in OPEP.
9-Apr-24	PLACED	How: Call	N/A	Phone call to AMOSC to see if review of Montara Operations EP is finalised. Still undergoing internal review process.	Noted.

22-Apr-24	RECEIVED	How: Email	AMOSC_4	Email received with letter confirming AMOSC consultation, providing review of OPEP and asking for copy of accepted OPEP.	Noted.
21-May-24	SENT	How: Email	AMOSC_4	Email confirming comments have been incorporated into OPEP and accepted OPEP will be sent to AMOSC.	Jadestone to send accepted OPEP to AMOSC.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. Request for Jadestone to verify contents of OPEP are consistent with AMOSC's Service Level Statement.		JSE considers these comments have merit and have actioned.		JSE have updated the OPEP to be in line with SLS.	
Carnarvon Energy					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. No comments on the proposed activity.		Noted.		No further action required.	
Eni Australia					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
4-Apr-23	PLACED	How: Call	N/A	Left a message asking Eni to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation.

14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Inpex					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
4-Apr-23	PLACED	How: Call	N/A	Call to confirm receipt of information package. Unable to confirm if package received. Asked to resend to different email.	Follow up email sent to updated contact details.
4-Apr-23	SENT	How: Email	INPEX	Package resent.	Awaiting response.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Melbana Energy					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
4-Apr-23	PLACED	How: Call	N/A	Left a message asking Melbana to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not	Awaiting response.

				received a response, and this is final attempt to elicit a response before re-submitting EP.	
30-Nov-23	RECEIVED	How: Email	Melbana	Acknowledgement email. Melbana have no concerns or objections.	Noted.
30-Nov-23	SENT	How: Email	Melbana	Acknowledgement of receipt.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. No comments on the proposed activity.		Noted.		No further action required.	
Oil Spill Response Limited (OSRL)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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. Include in ongoing consultation.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. No comments on the proposed activity.		Noted.		No further action required.	
Santos					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
4-Apr-23	PLACED	How: Call	N/A	Called to confirm receipt of information package. Package received and passed onto appropriate department for response. Unable to provide details of this department.	Awaiting response.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-	No further action. Include in ongoing consultation.

				submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	
29-Nov-23	RECEIVED	How: Email	Santos	Email received requesting previous email to be resent.	Resend previous email details and information package.
29-Nov-23	SENT	How: Email	Santos	Email sent with details of previous correspondence and information package resent.	No further action.
1-Dec-23	RECEIVED	How: Email	Santos	Request for original emails.	Noted.
4-Dec-23	SENT	How: Email	Santos	Following phone call email sent providing dates of original consultation and information package.	No further action.
21-Dec-23	RECEIVED	How: Email	Santos_1	Apology email for not providing feedback. Provided alternative contact for consultation going forward.	Alternative contact details noted.
21-Dec-23	RECEIVED	How: Email	Santos_2	Acknowledgement email. No comments or objections in relation to the proposed activities.	Noted. No further action.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. No comments on the proposed activity.		Noted.		No further action required.	

Shell

Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. No comments on the proposed activity.		Noted.		No further action required.	

WA Commercial Fishers and Fishing Associations

Western Australian Fishing Industry Council (WAFIC)

Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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	PLACED	How: Call	WAFIC	Initial discussion seeking assistance of WAFIC to identify licence holders undertaking fishing effort in EMBA.	N/A
18-Nov-22	SENT	How: Email	WAFIC_1	Request fee for service schedule.	Awaiting response
18-Nov-22	RECEIVED	How: Email	WAFIC_1	WAFIC Fee for service sent through along with guidelines for consultation.	Email sent with requested documents
7-Feb-23	SENT	How: Email	WAFIC_1	Introduction of Consultation Specialist as point of contact for consultation with Jadestone. Recommend corresponding directly with him regarding next phase in consultation with fishing license holders.	Awaiting response
8-Feb-23	RECEIVED	How: Email	WAFIC_1	Acknowledgement email, suggested times for Consultation Specialist to make contact to discuss matters.	Awaiting response
8-Feb-23	PLACED	How: Call	WAFIC	Initial discussion seeking assistance of WAFIC to identify license holders undertaking fishing effort in EMBA.	N/A
8-Feb-23	RECEIVED	How: Email	WAFIC_1	Acknowledgment of phone conversation, WAFIC Fee for service sent through along with guidelines for consultation.	Noted.
9-Feb-23	SENT	How: Email	WAFIC_1	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.	Awaiting response
13-Feb-23	RECEIVED	How: Email	WAFIC_1	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.
15-Feb-23	PLACED	How: Call	WAFIC_2	WAFIC can only provide advice on fishing licence holders within Operational Area.	Noted.
17-Feb-23	PLACED	How: Call	WAFIC_3	WAFIC reiterated that they will only provide information based on Operational Area.	Noted.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim Ongoing correspondence in relation to advice on identifying commercial fishing licence holders.		Noted.		No further action required.	
Commonwealth Commercial Fishers and Fishing Associations					
Australian Southern Bluefin Tuna Industry Association (ASBTIA)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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	Awaiting response

				as required by the regulations.	
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.
22-Mar-23	PLACED	How: Call	ASBTIA_1	Indirectly indicated that there is no commercial Southern Bluefin Tuna fishing effort undertaken within or adjacent to EMBA.	Noted.
28-Jul-23	SENT	How: Email	G5	Email and information package sent to stakeholder providing updated EMBA and notifying them that based on the updated EMBA they no longer considered a relevant person unless they self identify.	No further action.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. Correspondence in relation to commercial Southern Bluefin Tuna fishing effort within the EMBA.		Noted.		No further action required.	
Commonwealth Fisheries Association (CFA)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. CFA are not resourced to give feedback. Advised to direct enquiries to the associations that represent the directly affected fisheries/fishers. May need to engage on a fee for service basis.		JSE considers these comments have merit and has been actioned.		In accordance with this guidance, as part of Jadestone's standard approach to consultation the representative bodies for Commonwealth fisheries have been engaged with during the development of the EP.	
Seafood Industry Australia (SIA)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
26-Apr-23	PLACED	How: Call	N/A	Left a message asking SIA to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call.

28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Tuna Australia					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
14-Aug-23	RECEIVED	How: Mail	Tuna Australia	Email received from Tuna Australia in relation to direct approaches to licence holders. Members have requested engage directly with Tuna Australia.	Review industry position statement.
3-Nov-23	PLACED	How: Call	N/A	Call to Tuna Australia Program Manager. Invited Jadestone to email re Tuna Australia's ability to be the conduit for titleholder consultation with all commercial fishing licence holders in the Australian tuna fisheries, including non-members of Tuna Australia.	Noted.
22-Nov-23	SENT	How: Mail	Tuna Australia	Email advising will continue to consult with Tuna Australia as a Relevant Person, but do not regard consultation with the organisation as a legal means of also consulting with the individual commercial fishery licence holders as Relevant Persons.	Awaiting response.
5-Dec-23	RECEIVED	How: Mail	Tuna Australia	Acknowledgement email. Reattached copy of industry position statement. Jadestone and Tuna Australia have differing views of consultation guidelines. Recommend seek advice from AFMA.	Awaiting response.
24-Jan-24	SENT	How: Mail	Tuna Australia	Acknowledgement email. Out of abundance of caution in meeting regulatory requirements that Jadestone maintains its position of consulting directly with individual commercial fishery licence holders for Stag and Montara facilities. Jadestone regards Tuna Australia as a Relevant Person in its own right.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim Tuna Australia's member have requested that JSE engages directly with Tuna Australia for consultation purposes.		JSE have assessed the matter and have actioned.		JSE noted that consulting just with representative bodies is not adequate consultation and will keep consulting directly with commercial fishery licence holders. Tuna Australia is also included in the RP list. No further action required.	
Recreational Fishing Associations					
Recfishwest (WA)					

Date	*To/from*	*Engagement logistics*	*Reference number*	*Summary of content*	*Action undertaken status*
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.
27-Feb-23	SENT	How: Email	Recfishwest	Acknowledgement of email.	No further action. Include in ongoing consultation.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
3-Aug-23	RECEIVED	How: Email	Recfishwest_1	Email thanking for update and advising no comment from RFW with regards to the updated EMBA. Look forward to further updates.	Noted.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))***	
No objection, concern or claim No comments on the proposed activity.		Noted.		No further action required.	

First Nations Peoples

Please see First Nations Peoples table below.

Tourism and Business Associations/Tour Operators

Absolute Oceans Charters

Date	*To/from*	*Engagement logistics*	*Reference number*	*Summary of content*	*Action undertaken status*
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
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
15-Nov-23	PLACED	How: Call	N/A	Left a message asking Absolute Ocean Charters to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records	No further action. Include in ongoing consultation

				indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
APT Kimberley Coast Cruises					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
17-Nov-23	PLACED	How: Call	N/A	Called APT to confirm receipt of information package. Unsure if information package received. Asked to send through again. Alternative contact details provided.	Information package resent to alternative email
17-Nov-23	SENT	How: Email	APT	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
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Archipelago Adventures					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a	Awaiting response

				relevant person.	
17-Nov-23	PLACED	How: Call	N/A	Left a message asking Archipelago Adventures to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Australia's North West					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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	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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
28-Jul-23	SENT	How: Email	ANW_AutoResponse 2	Automatic email response.	Awaiting response
16-Nov-23	PLACED	How: Call	N/A	Called ANW to confirm receipt of information package. Package received and now passed onto most appropriate person who will review and provide feedback.	Awaiting response
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Broome Tours					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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	Awaiting response

				they have been engaged and what is required.	
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
16-Nov-23	PLACED	How: Call	N/A	Left a message asking Broome Tours to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Cannon Charters					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
28-Jul-23	SENT	How: Email	G5	Email and information package sent to stakeholder providing updated EMBA and notifying them that based on the updated EMBA they no longer considered a relevant person unless they self identify.	No further action
28-Jul-23	RECEIVED	How: Email	CC_AutoResponse	Auto Response notification out of the office till 8 August, will respond on return.	Noted. No further action.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Coral Expeditions					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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-May-23	PLACED	How: Call	N/A	Called Coral Expeditions to confirm receipt of information package. Unsure if package received, not interested in receiving information again.	No further action
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a	Awaiting response

				relevant person.	
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
HeliSpirit Luxury Kimberley Helicopter Safari					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
16-Nov-23	PLACED	How: Call	N/A	Called Helispirit to confirm receipt of information package. Unsure if information package received. Asked to send through again and will pass onto appropriate person.	Information package resent
16-Nov-23	SENT	How: Email	HeliSpirit	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
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Kimberley Cruise Centre					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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

28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
16-Nov-23	PLACED	How: Call	N/A	Left a message asking Kimberley Cruise Centre to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Kimberley Expeditions					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
16-Nov-23	PLACED	How: Call	N/A	Left a message asking Kimberley Expeditions to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Kimberley Pearl Charters					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
4-Apr-23	PLACED	How: Call	N/A	Called Kimberley Pearl Charters to confirm receipt of information package. Asked for package to be resent.	Package sent through again and passed onto appropriate person
4-Apr-23	SENT	How: Email	KPC	Information package resent.	Awaiting response
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	

Kimberley Quest

Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
4-Apr-23	PLACED	How: Call	N/A	Called Kimberley Quest to confirm receipt of information package. Asked for package to be resent.	Package sent through again and passed onto appropriate person.
4-Apr-23	SENT	How: Email	Kimberley Quest	Information package resent.	Awaiting response.
5-Apr-23	RECEIVED	How: Email	Kimberley Quest	Acknowledgment of receipt. Kimberley Quest have no comments or questions.	Noted.
5-Apr-23	SENT	How: Email	Kimberley Quest	Acknowledgement of receipt.	No further action.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim No comments on the proposed activity.		Noted.		No further action required.	

Kuri Bay Sport Fishing & Adventures

Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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	Awaiting response.

				they have been engaged and what is required.	
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.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
17-Nov-23	PLACED	How: Call	N/A	Called Kuri Bay to confirm receipt of information package. Unsure if package received. Asked to send through again. Alternative contact details provided.	Information package resent to alternative email.
17-Nov-23	SENT	How: Email	Kuri Bay	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.
17-Nov-23	RECEIVED	How: Email	Kuri Bay_1	Requested information on capacity to deal with a spill, response time and where response team are based.	Response being prepared.
29-Nov-23	SENT	How: Email	Kuri Bay_1	Email sent with information on spill response operations.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
Requested information on capacity to deal with a spill, response time and where are response team based.		JSE considers these comments have merit and have been actioned.		JSE have sent the objectives of the OPEP as well as information on spill response strategies and response time and resources.	

Lady M Luxury Cruises					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
17-Nov-23	PLACED	How: Call	N/A	Left a message asking Lady M Cruises to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	

Monsoon Aquatics					
Date	***To/from***	***Engagement logistics***	***Date***	***To/from***	***Engagement logistics***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
16-Nov-23	SENT	How: Email	Monsoon	Suitable contact number not known. Email sent following up to see if previous correspondence and information package was received and asking to provide contact details of most appropriate person to contact.	Awaiting response
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Ocean Dream Charters					
Date	***To/from***	***Engagement logistics***	***Date***	***To/from***	***Engagement logistics***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
17-Nov-23	PLACED	How: Call	N/A	Left a message asking Ocean Dream Charters to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.

A summary of the relevant person response, objection or claim (Reg 24(b)(i))	*Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))*	*Titleholders response (Reg 24(b)(iii))* *Measure adopted in the EP in response to consultation (where relevant)*
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.	N/A	No further action required.

One Tide Charters

Date	*To/from*	*Engagement logistics*	*Date*	*To/from*	*Engagement logistics*
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
16-Nov-23	PLACED	How: Call	N/A	Left a message asking One Tide to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.

A summary of the relevant person response, objection or claim (Reg 24(b)(i))	*Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))*	*Titleholders response (Reg 24(b)(iii))* *Measure adopted in the EP in response to consultation (where relevant)*
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.	N/A	No further action required.

Ponant Luxury Expeditions

Date	*To/from*	*Engagement logistics*	*Reference number*	*Summary of content*	*Action undertaken status*
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.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
17-Nov-23	PLACED	How: Call	N/A	Called Ponant to confirm receipt of information package. Unsure if package received. Asked to send through again. Alternative contact details provided.	Information package resent to alternative email.
17-Nov-23	SENT	How: Email	Ponant	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-Nov-23	RECEIVED	How: Email	Ponant	Email advising Montara activities will have no impact on Ponant itineraries and operations.	Noted.
23-Nov-23	SENT	How: Email	Ponant	Acknowledgement of email.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of	No further action.

				upcoming community consultation information sessions.	
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim No comments on the proposed activity.		Noted.		No further action required.	
Seaestar Boat Charters					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
4-Apr-23	PLACED	How: Call	N/A	Left a message asking Seaestar to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Silversea Cruises					
Date	***To/from***	***Engagement logistics***	***Date***	***To/from***	***Engagement logistics***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-	No further action. Include in ongoing consultation

				submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
The Great Escape Charter Company					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
4-Apr-23	PLACED	How: Call	N/A	Called the Great Escape Charter Company to confirm receipt of information package. Package received and they will provide a response.	Awaiting response.
4-Apr-23	RECEIVED	How: Email	Great Escape	Acknowledgment of receipt. Great Escape Company have no comments or questions.	Noted.
4-Apr-23	SENT	How: Email	Great Escape	Acknowledgement of email.	No further action. Include in ongoing consultation.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim No comments on the proposed activity.		Noted.		No further action required.	
True North					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
16-Nov-23	PLACED	How: Call	N/A	Called True North to confirm receipt of information package. Package received and passed on to appropriate person to respond. Following up response.	Awaiting response

29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Environmental Conservation Groups/eNGOs					
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
15-Nov-23	SENT	How: Email	AMCS	Email sent following up to see if previous correspondence and information package was received and asking to provide contact details of most appropriate person to contact.	Awaiting response
23-Nov-23	PLACED	How: Call	N/A	Representative of AMCS confirmed receipt of Stag and Montara Invitation for Consultation emails and has been forwarded onto the appropriate person to consider and respond as appropriate. Indicated that AMCS does not respond to all of the consultation communications received by the organisation.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Conservation Council of Western Australia (CCWA)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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	Awaiting response.

				as required by the regulations.	
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
15-Nov-23	SENT	How: Email	CCWA	Email sent following up to see if previous correspondence and information package was received and asking to provide contact details of most appropriate person to contact.	Awaiting response.
20-Nov-23	RECEIVED	How: Email	CCWA	Email received with contact for future consultation opportunities. CCWA does not have capacity to engage with proponents on all projects, however interested in ongoing consultation opportunities.	Noted.
21-Nov-23	SENT	How: Email	CCWA	Acknowledgment email.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. CCWA have stated that they have no capacity to engage with proponents on all projects, however would like to be consulted on an ongoing basis with future projects.		JSE considers these comments have merit and have been actioned.		CCWA included in ongoing consultation. No further action required.	

Environment Centre Northern Territory (ECNT)

Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
17-Nov-23	PLACED	How: Call	N/A	Left a message asking ECNT to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call
17-Nov-23	RECEIVED	How: Call	N/A	Message left asking Jadestone to call back.	Return phone call
17-Nov-23	PLACED	How: Call	N/A	Called back and left a message asking to call Jadestone.	Awaiting return phone call
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	

No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Environs Kimberley					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
17-Nov-23	PLACED	How: Call	N/A	Called Environs Kimberley to confirm receipt of information package. Unsure if package received. Asked to send through again. Alternative contact details provided.	Information package resent to alternative email
17-Nov-23	SENT	How: Email	Environs	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
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Greenpeace					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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	Greenpeace_bounce	Email bounced.	Look for alternative email.
19-Dec-22	RECEIVED	How: Email	Greenpeace_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	Greenpeace_AutoResponse_2	Auto Response email received.	Awaiting response.
24-Feb-23	RECEIVED	How: Email	Greenpeace	Correspondence received in relation to Stag and Montara EPs. Requesting information on emissions, spill modelling and spill response plan as well as information on how Jadestone have identified relevant persons.	Response email sent.
27-Mar-23	SENT	How: Email	Greenpeace_1	Acknowledgement email. Jadestone will respond shortly.	Response to be sent.
31-Mar-23	SENT	How: Email	Greenpeace_1	Response sent to queries raised in email.	No further action.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and	No further action. Include in ongoing consultation.

				notifying them that they are still considered a relevant person.	
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
Requested information on emissions, spill modelling and spill response plan as well as information on how Jadestone have identified Relevant Persons and why Greenpeace is considered a relevant person.		JSE considers these comments have merit and have been actioned.		Response sent with information detailing how Relevant Persons have been identified, as well as requested information on emissions, spill modelling and spill response plans. No further response received. No further action required.	
Save the Kimberley					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
17-Nov-23	PLACED	How: Call	N/A	Left a message asking Save The Kimberley to call Jadestone to confirm if consultation package was received and provide any feedback.	Awaiting return call
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
The Wilderness Society					
Date	***To/from***	***Engagement logistics***	***Date***	***To/from***	***Engagement logistics***
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
15-Feb-23	SENT	How: Email	TWS	Evidence of original email sent to TWS.	Awaiting response
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response

15-Nov-23	PLACED	How: Call	N/A	Called TWS to confirm receipt of information package for Stag and Montara. Asked for information packages to be resent.	Information packages resent
15-Nov-23	SENT	How: Email	TWS_1	Information package resent.	Awaiting response
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
World Wildlife Fund					
Date	***To/from***	***Engagement logistics***	***Date***	***To/from***	***Engagement logistics***
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
27-Sep-23	PLACED	How: Call	N/A	Called WWF to confirm receipt of information package. Unsure if package received. Asked to send through again.	Information packages resent
27-Sep-23	SENT	How: Email	WWF	Email resent with attached information package for Stag and Montara Operations EP.	Awaiting response
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	
Other Associations					
Australian Council of Prawn Fisheries					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response.
7-Sep-23	SENT	How: web form	N/A	Unable to find contact number for relevant person. Completed web form asking for most appropriate email to send information package to.	Awaiting response.
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	

Broome Visitor Centre (BVC)

Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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 is required 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
22-Feb-23	RECEIVED	How: Email	BVC	BVC happy to discuss further once travel booked.	Noted.
11-May-23	MEETING	How: Meeting in Broome	BVC_1	BVC will assist Jadestone to communicate with the Broome tourism industry through its regular newsletter.	Meeting minuted.
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. Correspondence in relation to communicating with the Broome tourism industry through its regular newsletter.		Noted.		No further action required.	

Marine Tourism Association of Western Australia (MTWA)

Date	*To/from*	*Engagement logistics*	*Reference number*	*Summary of content*	*Action undertaken status*
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
29-Nov-23	SENT	How: Email	G6	Email sent advising of closing date for consultation on Montara Activities prior to re-submitting EP to NOPSEMA, that our records indicate despite past efforts we have not received a response, and this is final attempt to elicit a response before re-submitting EP.	No further action. Include in ongoing consultation.
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No feedback was received despite several follow-ups. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, actioned.		N/A		No further action required.	

Academic and Research Organisations

Australian Institute of Marine Science (AIMS)

Date	*To/from*	*Engagement logistics*	*Reference number*	*Summary of content*	*Action undertaken status*
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
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	Awaiting response
26-Sep-23	PLACED	How: Call	N/A	Called AIMS to confirm receipt of information package. Unsure if package received. Updated email provided.	Updated email noted
26-Sep-23	SENT	How: Email	AIMS	Email sent to updated email with attached information package for Stag and Montara Operations EP.	Awaiting response
28-Sep-23	RECEIVED	How: Email	AIMS	Acknowledgement of receipt. AIMS confirmed planned activities will not interfere with AIMS operations.	Noted. No further action. Include in ongoing consultation
14-Mar-24	SENT	How: Email	G7	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
24-Jun-24	SENT	How: Email	G8	Email sent to Relevant Person advising that EP has been accepted by NOPSEMA and providing link to EP.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	

No objection, concern or claim. Planned activities will not interfere with AIMS operations.	Noted	No further action required.

Other In the course of consulting with current Relevant Persons and community sessions, the following stakeholders were referred to or suggested for consultation.*

BW Digital

Date	*To/from*	*Engagement logistics*	*Reference number*	*Summary of content*	*Action undertaken status*
23-Mar-23	SENT	How: Web form	BW Digital	On advice from ACMA contacted BW Digital to inform them of Montara Project.	No further action.

Community consultations (1-5)

Date	*To/from*	*Engagement logistics*	*Reference number*	*Summary of content*	*Action undertaken status*
8-Apr-24	SENT	How: Email	Community Consultation_1	Email sent confirming contact details passed onto procurement team as requested at community session. Not considered a Relevant Person for Montara Operations going forward.	No further action.
8-Apr-24	SENT	How: Email	Community Consultation_2	Email providing information on NETTS Program as requested at community session. Not considered a Relevant Person for Montara Operations going forward.	No further action.
9-Apr-24	SENT	How: Email	Community Consultation_3	Email sent providing Montara Operations EP and Skua-11 Drilling EP information packages as requested at community session.	No further action.
9-Apr-24	SENT	How: Email	Community Consultation_4	Email sent providing Montara Operations EP and Skua-11 Drilling EP information packages as requested at community session.	No further action.
9-Apr-24	SENT	How: Email	Community Consultation_5	Email sent providing Montara Operations EP and Skua-11 Drilling EP information packages as requested at community session.	No further action.

Dambimangari Aboriginal Corporation

Date	*To/from*	*Engagement logistics*	*Reference number*	*Summary of content*	*Action undertaken status*
19-Mar-24	RECEIVED	How: Email	Dambimangari	Email received asking Jadestone to meet DAC board and providing meeting date and location.	Awaiting response
21-Mar-24	SENT	How: Email	Dambimangari	Email following up from phone conversation clarifying the relationship between DAC and Wunjina-Wunggurr Aboriginal Corporation and that Jadestone has been in regular contact with Wunjina-Wunggurr and anticipates a presentation to the directors in May. No requirement for Jadestone to attend and make presentation to DAC.	No further action.

Inligo

Date	*To/from*	*Engagement logistics*	*Reference number*	*Summary of content*	*Action undertaken status*
23-Mar-23	SENT	How: Web form	Inligo	On advice from ACMA contacted Inligo to inform them of Montara Project.	Awaiting response.
24-Mar-23	RECEIVED	How: Email	Inligo	Provided contact details.	Noted.
27-Jul-23	SENT	How: Email	Inligo_1	Email and information package sent through.	Awaiting response.
28-Jul-23	RECEIVED	How: Email	Inligo_1	Confirmation that there will be no interference between projects.	Noted.
28-Jul-23	SENT	How: Email	Inligo_1	Acknowledgement of email.	No further action.

KRED Enterprises

Date	*To/from*	*Engagement logistics*	*Reference number*	*Summary of content*	*Action undertaken status*
26-Apr-23	SENT	How: Email	KRED	At March meeting in Broome KLC referred Jadestone to KRED Enterprises to engage for assistance in identifying and contacting the Kimberley coastal PBCs and for assistance in arranging Kimberley community presentations. Email seeking assistance with organising community meetings with Traditional Owner groups along the Kimberley coastline.	Awaiting response.

29-Apr-23	RECEIVED	How: Email	KRED	Email noting discussion about process for consulting with traditional owners required.	Noted.
5-May-23	SENT	How: Email	KRED	Email back and forth to organise meeting to discuss process.	N/A
9-May-23	RECEIVED	How: Email	KRED	Email back and forth to organise meeting to discuss process.	N/A
9-May-23	SENT	How: Email	KRED	Email back and forth to organise meeting to discuss process.	N/A
29-May-23	SENT	How: Email	KRED_1	Email following up on phone call. As per advice Jadestone to present to Directors of each PBC, seeking assistance of KRED in planning and facilitating community presentations.	Awaiting response.
31-May-23	RECEIVED	How: Email	KRED_1	Acknowledgment of email, will review and be in touch.	Awaiting response.
1-Jun-23	SENT	How: Email	KRED_1	Acknowledgement of email.	Awaiting response.
7-Jun-23	RECEIVED	How: Email	KRED_2	Email reviewed, what is time frame for work.	Awaiting response.
8-Jun-23	SENT	How: Email	KRED_2	Jadestone would like to make presentations during July and August.	Awaiting response.
21-Jun-23	SENT	How: Email	KRED_2	Follow up email.	N/A
28-Jun-23	RECEIVED	How: Email	KRED_2	Apologies for delay, will be in touch shortly.	N/A
3-Jul-23	RECEIVED	How: Email	KRED_2	Email organising time for phone call to finalise quote for services.	N/A
3-Jul-23	SENT	How: Email	KRED_2	Email advising availability all day.	Noted
3-Jul-23	PLACED	How: Phone call	N/A	Phone conversation to go through queries and allow quote to be finalised.	N/A
3-Jul-23	RECEIVED	How: Email	KRED_2	Follow up email following phone call. Cost estimate sent.	Jadestone reviewing cost estimate.
14-Jul-23	RECEIVED	How: Email	KRED_2	Following further phone call revised cost estimate sent.	Jadestone reviewing cost estimate.
14-Jul-23	INTERNAL	How: Email	KRED_2	Passing on of new amended quote from KRED, recommending acceptance.	JSE to review and consider acceptance of quote.
19-Jul-23	INTERNAL	How: Email	KRED_2	Request confirmation to proceed with contracting KRED.	Awaiting response.
26-Jul-23	INTERNAL	How: Email	KRED_2	Quote sent internally for review, request on how best to proceed.	Awaiting response.
2-Aug-23	INTERNAL	How: Email	KRED_2	Checking in on progress of KRED request.	Awaiting response.
2-Aug-23	INTERNAL	How: Email	KRED_2	JSE PO Terms for KRED to receive and sign.	JSE to forward to KRED.
3-Aug-23	SENT	How: Email	KRED_2	Apologies for delay, request to provide Supplier details and return acceptance of JSE PO Terms.	Awaiting response.
10-Aug-23	RECEIVED	How: Email	KRED_2	Email acknowledging Jadestone's acceptance of quote, request to revise Jadestone PO terms and conditions.	JSE reviews PO terms.
10-Aug-23	INTERNAL	How: Email	KRED_2	Email passed on for internal discussion and resolution.	Awaiting response.
11-Aug-23	INTERNAL	How: Email	KRED_2	Request to review PO T&Cs for KRED.	Awaiting response.
14-Aug-23	INTERNAL	How: Email	KRED_2	Amended PO Terms.	Noted.
14-Aug-23	SENT	How: Email	KRED_2	Email with attached revised PO terms for review and completion.	Awaiting response.
14-Aug-23	RECEIVED	How: Email	KRED_2	Email with completed form attached.	Noted.
28-Aug-23	SENT	How: Email	KRED_3	Apologies for delay, follow-up regarding delayed community presentation and offering compensation for delay in scheduling.	Awaiting response.
5-Sep-23	RECEIVED	How: Email	KRED_3	Acknowledgement of email, awaiting further instruction for scheduling community presentation.	Awaiting response.
16-Nov-23	SENT	How: Email	KRED_3	Email advising Jadestone still considering timing of community presentations. Asked for KRED's availability.	Awaiting response.
18-Nov-23	RECEIVED	How: Email	KRED_3	Thanks for update. Recommend start community presentations in February	Noted.

				depending on wet season, ceremony time and school resuming after holiday season.	
8-Jan-24	SENT	How: Email	KRED_3	Follow up email, Jadestone keen to lock in dates for community sessions.	Awaiting response.
31-Jan-24	RECEIVED	How: Email	KRED_3	Email following missed phone calls. Trying to arrange time to discuss community sessions.	Awaiting response.
9-Feb-24	SENT	How: Email	KRED_4	Email to organise logistics and personnel requirements for community presentations. Can KRED provide representative to undertake notetaking.	Awaiting response.
14-Feb-24	SENT	How: Email	KRED_4	Follow up email.	Awaiting response.
19-Feb-24	RECEIVED	How: Email	KRED_4	Can help capture attendees, will have to get back to Jadestone re note taking. Redrafting schedule and will get back to Jadestone by COB this week.	Noted.
21-Feb-24	SENT	How: Email	KRED_4	Acknowledgement email.	Waiting for schedule.
7-Mar-24	RECEIVED	How: Email	KRED_5	Email requesting info sheets to share with communities.	Awaiting response.
7-Mar-24	SENT	How: Email	KRED_5	Email sent with Information package attached.	No further action.
14-Jun-24	SENT	How: Email	KRED_6	Email advising PBC that EP has been accepted by NOPSEMA and advising Jadestone commitments going forward.	No further action.
Vocus					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
23-Mar-23	SENT	How: Web form	Vocus	On advice from ACMA contacted Vocus to inform them of Montara Project.	No further action.

First Nations Assessment of merit					
Balanggarra Aboriginal Corporation					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
11-Aug-2023	SENT	How: Email	Balanggarra	Email seeking opportunity to meet with Directors to introduce Montara project and seek advice on the most appropriate means of undertaking consultation. Information package attached providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required.	Awaiting response.
23-Oct-23	SENT	How: Email	Balanggarra	Follow up email- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations.	Awaiting response.
28-Nov-23	SENT	How: Email	Balanggarra	Further follow up email.	Awaiting response.
11-Jan-24	SENT	How: Email	Balanggarra_1	Further follow up reiterating previous attempts to consult with Balanggarra.	Awaiting response.
31-Jan-24	SENT	How: Email	Balanggarra_1	Further follow up to arrange presentation to Directors.	Awaiting response.
14-Feb-24	SENT	How: Email	Balanggarra_2	Email reiterating previous attempts to contact Balanggarra Aboriginal Corporation since August 2023 and seeking opportunity to make a presentation to the Directors. Jadestone continues to seek opportunity to make a presentation to directors.	Awaiting response.
14-Mar-24	SENT	How: Email	Balanggarra_3	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
8-May-24	SENT	How: Email	Balanggarra_4	Further follow up email.	Include in ongoing consultation. Confirm contact details remain the same in 6 months time.
13-Jun-24	SENT	How: Email	Balanggarra_5	Email sent to PBC advising them that EP has been accepted by NOPSEMA.	No further action.
25-Nov-24	SENT	How: Email	Balanggarra_6	Email sent to confirm contact details Jadestone have for PBC are correct.	Awaiting response.
6-Dec-24	SENT	How: Email	Balanggarra_6	Further follow up email.	Awaiting response.
17-Dec-24	SENT	How: Email	Balanggarra_6	Further follow up email.	Awaiting response.
12-Jun-25	SENT	How: Email	Balanggarra_7	6 monthly email sent to confirm contact details Jadestone have for PBC are correct.	Awaiting response
13-Jun-25	RECEIVED	How: Email	Balanggarra_7	Email received providing updated contact details.	Contact details updated.
13-Jun-25	SENT	How: Email	Balanggarra_7	Acknowledgement email.	Include in ongoing consultation. Confirm contact details remain the same in 6 months time.
16-Sep-25	SENT	How: Email	Balanggarra_8	Courtesy email sent to PBC to notify them of submission of two EPs and providing EMBA.	Awaiting response
21-Sep-25	RECEIVED	How: Email	Balanggarra_8	Email received asking for email to be forwarded to other contacts.	Awaiting response
24-Sep-25	SENT	How: Email	Balanggarra_8	As requested email forwarded onto contact.	Awaiting response
25-Sep-25	RECEIVED	How: Email	Balanggarra_8	Email received suggesting appropriate group to contact.	Awaiting response
26-Sep-25	SENT	How: Email	Balanggarra_8	Email sent advising suggested group have been consulted.	No further action. Include in ongoing consultation.

A summary of the relevant person response, objection or claim (Reg 24(b)(i))	***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***	***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***
Numerous unsuccessful attempts have been made over an extended period to communicate with the Balanggarra Aboriginal Corporation in order to facilitate a consultation meeting with the Directors of the Corporation, including on a number of occasions sending the Montara Operations Environment Plan Invitation for Consultation.	Jadestone remains committed to attending a consultation meeting with the Directors of the Corporation should the opportunity arise in the future, including if requested to do so.	Due to the information provided to the Corporation (Montara Operations Environment Plan Invitation for Consultation and a map of the Sea Eagle and Tahbilk EMBA in relation to their potential areas of sea country), the considerable distance of the nearest point of the EMBA to the coastline and the time provided for the Corporation to respond, Jadestone deems consultation to be completed.

		Jadestone's Stakeholder Management Plan requires contact with the Corporation every six months for the purpose of updating its contact information for the Corporation, including the appropriate person for Jadestone to contact in the event of an emergency response due to an unplanned event.

Kimberley Land Council (KLC)					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
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-Mar-23	MEETING	How: In person meeting in Broome	KLC	Meeting to carry out discussions seeking guidance and parties to contact for fair and meaningful consultation process.	Noted
8-Mar-23	MEETING	How: In person meeting in Broome	KLC_1	Meeting about the location and capabilities of the Indigenous marine ranger groups around the Kimberley coastline and possible future opportunities for interaction with marine rangers.	Noted
28-Jul-23	SENT	How: Email	G4	Email and information package sent to stakeholder providing updated EMBA and notifying them that they are still considered a relevant person.	No further action. Include in ongoing consultation
14-Jun-24	SENT	How: Email	KLC_2	Email advising PBC that EP has been accepted by NOPSEMA and advising Jadestone commitments going forward.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
No objection, concern or claim. Ongoing discussions seeking guidance and parties to contact for fair and meaningful consultation process and learning about the location and capabilities of the Indigenous marine ranger groups around the Kimberley coastline and possible future opportunities for interaction with marine rangers		Noted.		No action required.	

Mayala Inninalang Aboriginal Corporation					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
11-Aug-23	SENT	How: Email	Mayala Inninalang	Email seeking opportunity to meet with Directors to introduce Montara project and seek advice on the most appropriate means of undertaking consultation. Information package attached providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required.	Awaiting response
6-Mar-24	SENT	How: Email	Mayala Inninalang_1	Email following on from advice from Walalakoo that need to contact the PBC boards directly for any decision making. Seeking opportunity to present to Directors of Mayala Inninalang Aboriginal Corporation, in relation to Montara 5 year Ops EP and Skua-11 Drilling EP. Reattached Invitation for Consultation.	Awaiting response
11-Mar-24	RECEIVED	How: Email	Mayala Inninalang_1	Acknowledgement email. Board meeting tomorrow, email will be tabled and will be in touch with next steps.	Noted
12-Mar-24	SENT	How: Email	Mayala Inninalang_1	Acknowledgement email.	Awaiting response
14-Mar-24	SENT	How: Email	Mayala Inninalang_2	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action
8-May-24	SENT	How: Email	Mayala Inninalang_3	Further follow up email.	Include in ongoing consultation. Confirm contact details remain the same in 6 months time.
13-Jun-24	SENT	How: Email	Mayala Inninalang_4	Email advising PBC that EP has been accepted by NOPSEMA and advising Jadestone	No further action

				commitments going forward.	
25-Nov-24	SENT	How: Email	Mayala Inninalang_5	Email sent to confirm contact details Jadestone have for PBC are correct.	Awaiting response
28-Nov-24	RECEIVED	How: Email	Mayala Inninalang_5	Email received providing most up to date contact details for PBC.	Contact details updated. Include in ongoing consultation. Confirm contact details remain the same in 6 months time.
12-Jun-25	SENT	How: Email	Mayala Inninalang_6	6 monthly email sent to confirm contact details Jadestone have for PBC are correct.	Awaiting response
12-Jun-25	RECEIVED	How: Email	Mayala Inninalang_6	Email received providing updated contact details.	Contact details updated. Include in ongoing consultation. Confirm contact details remain the same in 6 months time.
16-Sep-25	SENT	How: Email	Mayala Inninalang_7	Courtesy email sent to PBC to notify them of submission of two EPs and providing EMBA.	No further action. Include in ongoing consultation.
A summary of the relevant person response, objection or claim (Reg 24(b)(i))		***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***		***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***	
Numerous unsuccessful attempts have been made over an extended period to communicate with the Mayala Inninalang Aboriginal Corporation in order to facilitate a consultation meeting with the Directors of the Corporation, including on a number of occasions sending the Montara Operations Environment Plan Invitation for Consultation. Whilst the Corporation indicated by email in March 2024 that it would advise Jadestone of an opportunity to make a consultation presentation to Directors at a scheduled meeting of the Directors nothing more was heard.		Jadestone remains committed to attending a consultation meeting with the Directors of the Corporation should the opportunity arise in the future, including if requested to do so.		Due to the information provided to the Corporation (Montara Operations Environment Plan Invitation for Consultation and a map of the Sea Eagle and Tahbilk EMBA in relation to their potential areas of sea country), the considerable distance of the nearest point of the EMBA to the coastline and the time provided for the Corporation to respond, Jadestone deems consultation to be completed. Jadestone's Stakeholder Management Plan requires contact with the Corporation every six months for the purpose of updating its contact information for the Corporation, including the appropriate person for Jadestone to contact in the event of an emergency response due to an unplanned event.	
Wanjina Wunggurr Aboriginal Corporation					
Date	***To/from***	***Engagement logistics***	***Reference number***	***Summary of content***	***Action undertaken status***
11-Aug-23	SENT	How: Email	Wanjina-Wunggurr	Email seeking opportunity to meet with Directors to introduce Montara project and seek advice on the most appropriate means of undertaking consultation. Information package attached providing an update on 5 year revision of Montara EP and details on why they have been engaged and what is required.	Awaiting response.
23-Oct-23	SENT	How: Email	Wanjina-Wunggurr	Follow up email- Given no correspondence, email sent to stakeholder to try and elicit a response as required by the regulations.	Awaiting response.
24-Oct-23	RECEIVED	How: Email	Wanjina-Wunggurr	Email forwarded to correct contact for Wanjina-Wunggurr (Native Title) Aboriginal Corporation.	Awaiting response.
14-Nov-23	SENT	How: Email	Wanjina-Wunggurr	Further follow up email.	Awaiting response.
28-Nov-23	SENT	How: Email	Wanjina-Wunggurr	Further follow up email.	Awaiting response.
8-Jan-24	SENT	How: Email	Wanjina-Wunggurr	Further follow up email.	Awaiting response.
11-Jan-24	SENT	How: Email	Wanjina-Wunggurr_1	Further follow up reiterating previous attempts to consult with WW PBC.	Awaiting response.
15-Jan-24	SENT	How: Email	Wanjina-Wunggurr	Follow up with KLC re Wanjina contact details. Request for phone number.	Awaiting response.
15-Jan-24	RECEIVED	How: Email	Wanjina-Wunggurr	Can only provide publicly available information. Continue to use contact email Jadestone already have.	Noted.
31-Jan-24	SENT	How: Email	Wanjina-Wunggurr_1	Further follow up to arrange presentation to Directors.	Awaiting response.
6-Feb-24	RECEIVED	How: Email	Wanjina-Wunggurr_1	WW PBC have board meeting scheduled for March. Will confirm date and get back to Jadestone. Asked how much time needed for presentation.	Responded with time required for presentation.
6-Feb-24	SENT	How: Email	Wanjina-Wunggurr_1	Acknowledgement email. Would appreciate the opportunity of one hour.	Awaiting meeting date.
28-Feb-24	SENT	How: Email	Wanjina-Wunggurr_2	Further follow up email on board meeting date.	Awaiting response.
5-Mar-24	RECEIVED	How: Email	Wanjina-Wunggurr_3	Email in response to voice message. Asked if presentation can fit in 40 minute time slot for	Awaiting response.

				March meeting.	
5-Mar-24	SENT	How: Email	Wanjina-Wunggurr_3	Asked for date of next board meeting.	Awaiting response.
5-Mar-24	RECEIVED	How: Email	Wanjina-Wunggurr_3	Next meeting likely early May.	Noted.
5-Mar-24	SENT	How: Email	Wanjina-Wunggurr_3	Due to time constraint Jadestone will wait for May meeting to present to board of Directors.	Awaiting date of May board meeting.
14-Mar-24	SENT	How: Email	Wanjina-Wunggurr_4	Email sent to stakeholder notifying them of upcoming community consultation information sessions.	No further action.
8-May-24	SENT	How: Email	Wanjina-Wunggurr_5	Further follow up email.	Include in ongoing consultation. Confirm contact details remain the same in 6 months time.
13-Jun-24	SENT	How: Email	Wanjina-Wunggurr_6	Email advising PBC that EP has been accepted by NOPSEMA and advising Jadestone commitments going forward.	No further action.
25-Nov-24	SENT	How: Email	Wanjina-Wunggurr_7	Email sent to confirm contact details Jadestone have for PBC are correct.	Awaiting response.
6-Dec-24	SENT	How: Email	Wanjina-Wunggurr_7	Further follow up email.	Awaiting response.
17-Dec-24	SENT	How: Email	Wanjina-Wunggurr_7	Further follow up email.	Awaiting response.
13-Jan-25	RECEIVED	How: Email	Wanjina-Wunggurr_7	Email received providing most up to date contact details for PBC.	Contact details updated.
14-Jan-25	SENT	How: Email	Wanjina-Wunggurr_7	Acknowledgment email.	Include in ongoing consultation. Confirm contact details remain the same in 6 months time.
12-Jun-25	SENT	How: Email	Wanjina-Wunggurr_8	6 monthly email sent to confirm contact details Jadestone have for PBC are correct.	Awaiting response
22-Jun-25	SENT	How: Email	Wanjina-Wunggurr_8	Further follow up email.	Awaiting response
11-Jul-25	SENT	How: Email	Wanjina-Wunggurr_8	Further follow up email.	Awaiting response
11-Jul-25	SENT	How: Email	Wanjina-Wunggurr_8	Further follow up email.	Awaiting response
11-Jul-25	RECEIVED	How: Email	Wanjina-Wunggurr_8	Email received providing most up to date contact details for PBC.	Contact details updated.
11-Jul-25	SENT	How: Email	Wanjina-Wunggurr_8	Acknowledgment email.	Include in ongoing consultation. Confirm contact details remain the same in 6 months time.
16-Sep-25	SENT	How: Email	Wanjina-Wunggurr_9	Courtesy email sent to PBC to notify them of submission of two EPs and providing EMBA.	No further action. Include in ongoing consultation.

A summary of the relevant person response, objection or claim (Reg 24(b)(i))	***Titleholder assessment of merits of any objection or claim (Reg 24(b)(ii))***	***Titleholders response (Reg 24(b)(iii))*** ***Measure adopted in the EP in response to consultation (where relevant)***
Numerous attempts have been made over an extended period to communicate with the Wanjina-Wunggurr Aboriginal Corporation in order to facilitate a consultation meeting with the Directors of the Corporation, including on a number of occasions sending the Montara Operations Environment Plan Invitation for Consultation. An opportunity to meet with Directors on 8 March 2024 was provided but was not able to be taken up due to the short notice period. Whilst the Corporation did then indicate by email on 5 March 2024 of an opportunity to present to the Directors at a meeting in May 2024 nothing more was heard.	Jadestone remains committed to attending a consultation meeting with the Directors of the Corporation should the opportunity arise in the future, including if requested to do so.	Due to the information provided to the Corporation (Montara Operations Environment Plan Invitation for Consultation and a map of the Sea Eagle and Tahbilk EMBA in relation to their potential areas of sea country), the considerable distance of the nearest point of the EMBA to the coastline and the time provided for the Corporation to respond, Jadestone deems consultation to be completed. Jadestone's Stakeholder Management Plan requires contact with the Corporation every six months for the purpose of updating its contact information for the Corporation, including the appropriate person for Jadestone to contact in the event of an emergency response due to an unplanned event.

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?

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?

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

What do Jadestone want to know?

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?

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 (OPGGS 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.

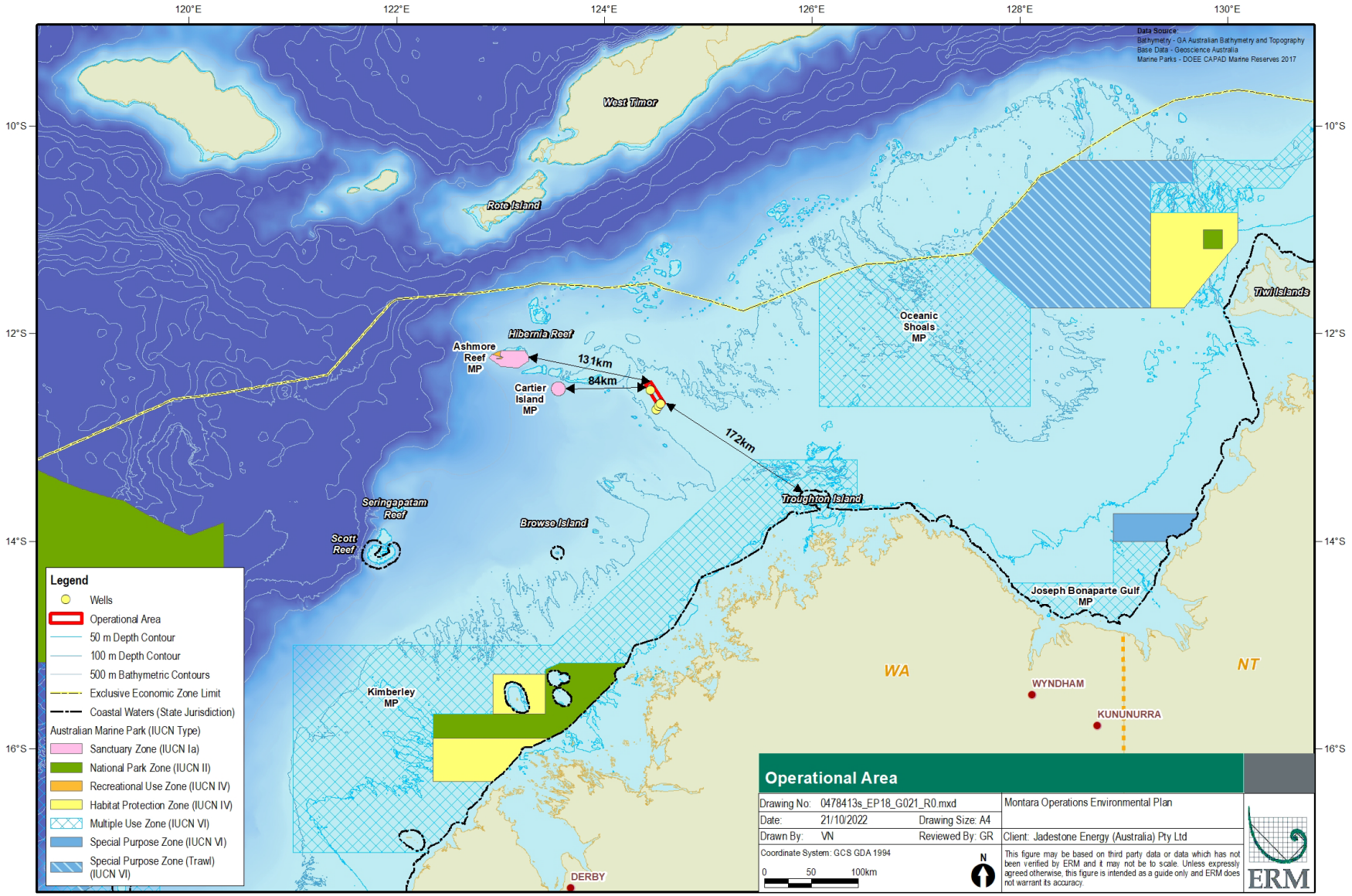


FIGURE 1 – LOCATION MAP

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	- 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) - Facility and vessel navigation lights are compliant with the Navigation Act 2012.
Noise Emissions	- Vessels and helicopters comply with relevant parts of Environment Protection and Biodiversity Conservation (EPBC) Regulation (2000) Part 8 - Vessel and machinery are maintained in accordance with Flag State certification requirements. - All engines, compressors and machinery on the WHP and FPSO are maintained via a maintenance management system
Atmospheric Emissions	- Flag State Certificate and/or International Air Pollution Prevention (IAPP) certifies measures are in place to manage air emissions - All engines, compressors and machinery on the WHP and FPSO are maintained via a maintenance management system
Operational discharges	- 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 - Waste Management Plan
Physical Presences	- 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 - 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 - 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 - Consultation is undertaken with all relevant persons - Plans are in place for any future decommissioning including inspection and maintenance of all infrastructure - 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
Seabed Disturbance	- Surveys of seabed undertaken prior to integrity, maintenance or repair work - Designated anchoring area as marked on AHS charts - Seabed disturbance limited to planned activities and defined locations

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	- Beyond temporary perturbation to water quality, no environmental impacts due to the discharge of produced water are expected - Produced water discharges are monitored and recorded with adaptive management processes in place if significant changes are identified

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)	- IMS Management will meet legal requirements and reduce risks to As Low As Reasonably Practicable (ALARP) and Acceptable levels. - Vessels will be required to adhere to ballast water management, quarantine and biofouling requirements if required
Interaction with fauna	- Vessels operating within the restricted zone must not exceed a speed of five (5) knots - Induction includes information on speed limits and requirements for interacting with marine fauna
Unplanned discharges	- No release of non-hazardous / hazardous solid wastes or non-hydrocarbon hazardous liquids to the marine environment - Limitations of flaring volumes - Integrity and maintenance requirements maintained - Dropped object prevention - Waste management plan implemented, and details included in induction materials - Competent and trained personnel are inducted and have appropriate qualifications - Spill kits available and incident response plans in place
Vessel collision	- 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 - Vessels operating within the restricted zone must not exceed a speed of five (5) knots - Navigation lights installed and checked
Hydrocarbon release (not applicable during wellhead removal activity)	- NOPSEMA accepted Oil Pollution Emergency Plan (OPEP) and well operations management plan (WOMP) - Procedures in place on WHP and FPSO to prevent hydrocarbon release to sea during operations - Maintenance and integrity checks and inspections - Appropriate vessel spill response plans, equipment and materials will be in place and maintained - Appropriate refuelling procedures and equipment will be used to prevent spills to the marine environment

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.

Email: consult@jadestone-energy.com **Phone: 08 9486 6600**

The Atrium, Level 2, 168 St Georges Terrace, Perth WA 6000

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 has prepared 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).

The Invitation for Consultation also provides information about the revised EMBA for the Montara field.

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 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.

The NOPSEMA accepted Montara Operations EP must be revised and resubmitted every five years, or sooner if required.

Jadestone has revised and re-submitted the accepted Montara Operations EP in accordance with legislation (administrated by NOSPEMA). Jadestone continually updates the Montara Operations EP including consultation outcomes. The Montara Operations EP will not be accepted by NOPSEMA until they are satisfied that it meets the requirements of the legislation.

Therefore, the Montara Operations revision EP is currently under NOPSEMA assessment, covering activities associated with production; oil loading to a third-party tanker; the inspection, maintenance and repair of the wellhead platform; subsea export pipeline; wells; 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.

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 Commonwealth waters. The water depth at the Montara field is ~72–90 m. Location details are on Figure 1, including key features in the area. The distance to Australian Marine Parks (AMPs) is indicated in Table 1.

Table 1: Distance to AMPs

Regional Feature	Minimum distance from field
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. A Petroleum Safety Zone (PSZ) extends 500 m around the following Montara infrastructure:

- FPSO submerged turret production
- Wellhead platform (WHP)
- 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 (OPGGS 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 structure including the pipelines. The information has been noted on Admiralty Charts covering the region (#AUS 314), and although vessels are requested to avoid navigating, anchoring and fishing within the cautionary zone, it is not an exclusion zone.

All current activities are contained within the PSZ, although vessel activities and offtakes may occur outside of the defined PSZ, but within the cautionary zone.

All planned activities such as wellhead removal, will be contained within the defined Operational Area 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.

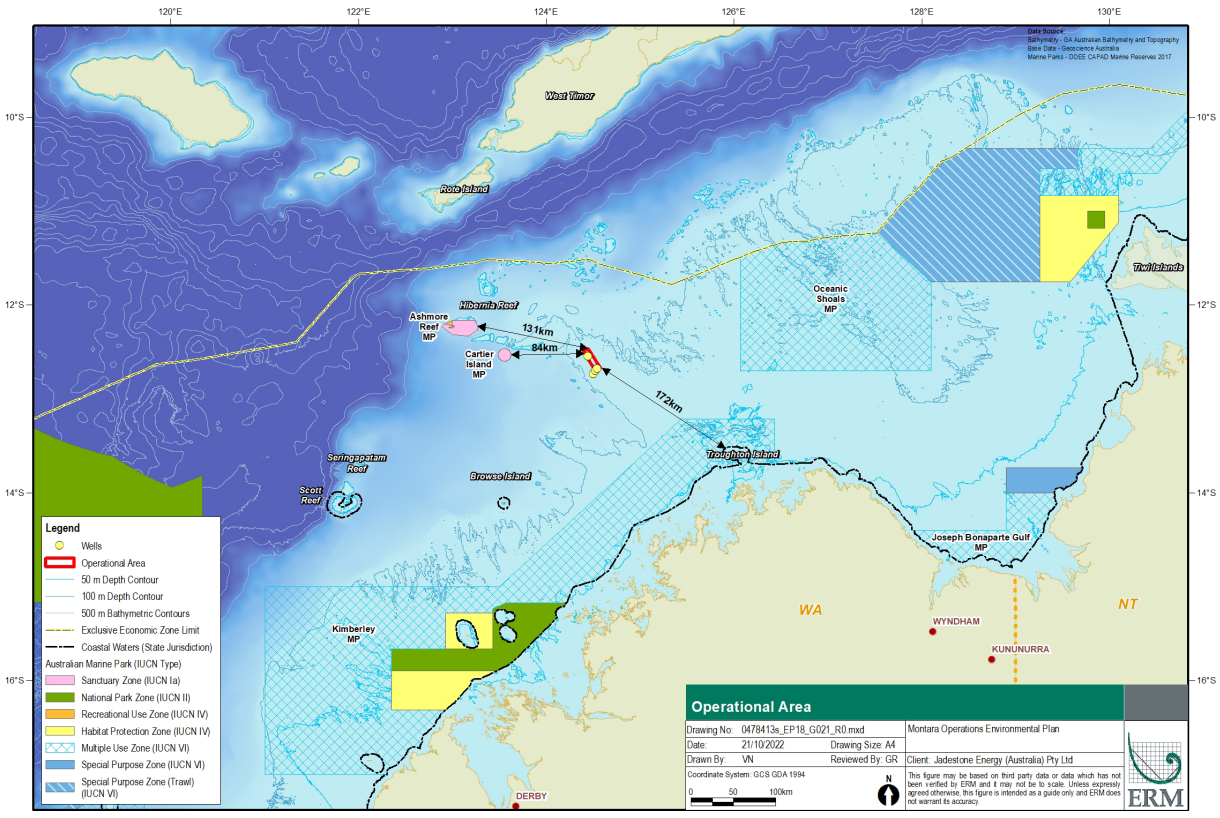


FIGURE 1: MONTARA LOCATION MAP

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. This is defined as the area that might be affected by planned events that will occur within a defined operational area or unplanned events that could extend beyond the defined operational area e.g., in the low likelihood of an unplanned hydrocarbon spill.

The NOPSEMA website includes a video about EMBAs and how they are determined.

www.nopsema.gov.au/news-and-resources/presentations-and-videos#Oil%20Spill%20Modelling

Figure 2 shows two Montara EMBAs, one larger that has been provided previously to stakeholders and in EPs based on a loss of well control during drilling. This scenario is not considered credible during operations. The worst-case scenario considered is a loss of hydrocarbons from a cargo tank due to 3rd party collision, and Jadestone commissioned new modelling to reflect this scenario. Both EMBAs have been presented to inform relevant persons of why they may have been consulted with previously.

What do we do with information provided?

In line with Regulation 9(8) of the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (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?

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

The EP has been published, minus any confidential material, on the NOPSEMA's website.

https://info.nopsema.gov.au/offshore_projects/20/show_public

What do Jadestone want to know?

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?

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 consequently, if no response is received, Jadestone may make follow-up contact with you or your organisation several times to seek a response.

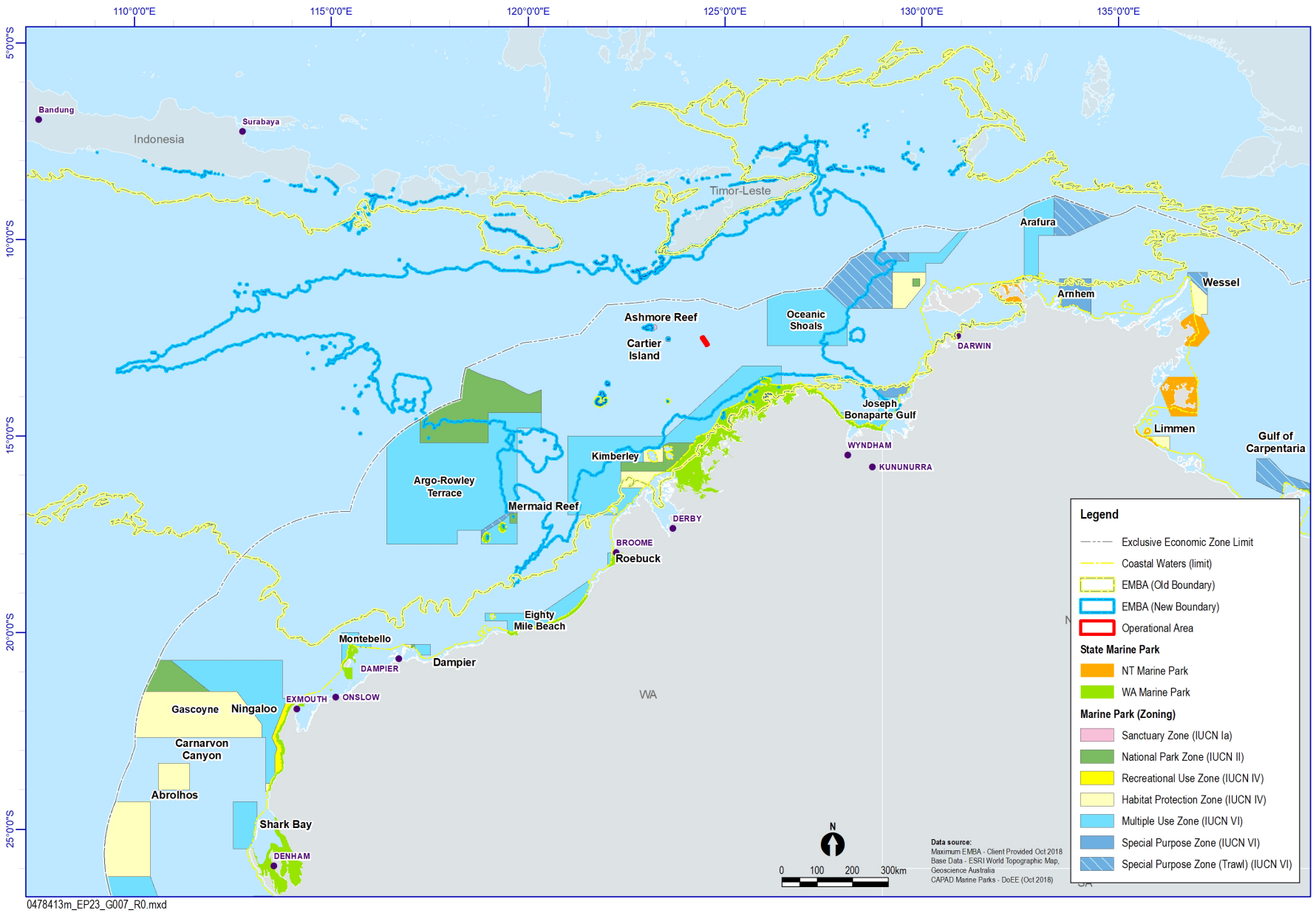


FIGURE 2: MONTARA ENVIRONMENT THAT MAY BE AFFECTED (EMBA) IN THE EVENT OF A LOSS OF HYDROCARBONS INCLUDING A LOSS OF HYDROCARBONS FROM A VESSEL CARGO TANK (NEW BOUNDARY) THAT IS REPRESENTATIVE OF THE CREDIBLE SCENARIO DURING OPERATIONS AND A LOSS OF WELL CONTROL (OLD BOUNDARY) THAT IS NOT CREDIBLE DURING OPERATIONS

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 OPERATIONS AND WELLHEAD REMOVAL

Potential Risks	Mitigation and /or Management Measures
Light Emissions	- 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) - Facility and vessel navigation lights are compliant with the Navigation Act 2012.
Noise Emissions	- Vessels and helicopters comply with relevant parts of Environment Protection and Biodiversity Conservation (EPBC) Regulation (2000) Part 8 - Vessels and machinery are maintained in accordance with Flag State certification requirements. - All engines, compressors and machinery on the WHP and FPSO are maintained via a maintenance management system
Atmospheric Emissions	- Flag State Certificate and/or IAPP certifies measures are in place to manage air emissions. - All engines, compressors and machinery on the WHP and FPSO are maintained via a maintenance management system
Liquid (operational) discharges	- 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. - Waste Management Plan
Interaction with other users	- 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. No fishing vessels are to enter this zone. - 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. - Commercial fishers are permitted to enter the wider 2.5 Nm 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. - Consultation is undertaken with all relevant persons. - Plans are in place for any future decommissioning including inspection and maintenance of all infrastructure. - 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 and prevent harm to birds
Physical Footprint	- Plans are in place for any future decommissioning including inspection and maintenance of all infrastructure. - Surveys of seabed undertaken prior to integrity, maintenance or repair work - Seabed disturbance limited to planned activities and defined locations

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	- Beyond temporary perturbation to water quality, no environmental impacts due to the discharge of produced water are expected. - Produced water discharges are monitored and recorded with adaptive management processes in place if significant changes are identified

Additional risks that are associated with events that are not expected to occur during normal activities are outlined in Table 4.

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

Potential Risks	Mitigation and /or Management Measures
Introduced Marine Species (IMS)	- IMS Management will meet legal requirements and reduce risks to As Low as Reasonably Practicable (ALARP) and Acceptable levels. - Vessels will be required to adhere to ballast water management, quarantine and biofouling requirements if required
Interaction with fauna	- Vessels operating within the restricted zone must not exceed a speed of five (5) knots. - Induction includes information on speed limits and requirements for interacting with marine fauna
Unplanned discharges	- No release of non-hazardous / hazardous solid wastes or non-hydrocarbon hazardous liquids to the marine environment - Limitations of flaring volumes - Integrity and maintenance requirements maintained. - Dropped object prevention. - Waste management plan implemented, and details included in induction materials. - Competent and trained personnel are inducted and have appropriate qualifications. - Spill kits available and incident response plans in place
Vessel/MODU collision	- 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. - Vessels operating within the restricted zone must not exceed a speed of five (5) knots. - Navigation lights installed and checked
Hydrocarbon release	- NOPSEMA accepted Oil Pollution Emergency Plan (OPEP) and well operations management plan (WOMP) - Procedures in place on WHP and FPSO to prevent hydrocarbon release to sea during operations. - Maintenance and integrity checks and inspections - Appropriate vessel/facility spill response plans, equipment and materials will be in place and maintained. - Appropriate refuelling procedures and equipment will be used to prevent spills to the marine environment

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.

Email: consult@jadestone-energy.com **Phone: 08 9486 6600**

The Atrium, Level 2, 168 St Georges Terrace, Perth WA 6000

NOTICES

www.theaustralian.com.au

POSSIBLE BENEFICIARIES

Would any children of **ALFRED LOWE, WILIAM LOWE** and **FREDERICK GEORGE LOWE** or their father **ALFRED LOWE** or any person knowing their whereabouts or claiming to be related to them or **GEORGE ALFRED LOWE** also known as **ALFRED GEORGE LOWE** deceased please contact The Public Trustee of Queensland, G.P.O. Box 2251 Brisbane 4001, Queensland, Australia (or email maria.murphy@pt.qld.gov.au) quoting reference 20126241 and provide full details of their claim.

Notice is hereby given on or after the 25th May 2023 The Public Trustee intends, pursuant to Section 132 of the *Public Trustee Act 1978* to proceed to distribute the assets in the estate of **GEORGE ALFRED LOWE** deceased late of 2082 Wynnum Road, Wynnum West in the State of Queensland having regard only to the persons whose claims have been established to his satisfaction or who then appear to him to have the best claim in law.

SAMAY ZHOUAND
THE PUBLIC TRUSTEE OF QUEENSLAND AND CEO

M8337

POSSIBLE BENEFICIARIES

Would **MARION JOAN HARRINGTON** also known as **MARION JOAN SADER** or **EDWARD FRANCIS HARRINGTON** also known as **EDWARD HARRINGTON** or any children of **MARION JOAN HARRINGTON** also known as **MARION JOAN SADER** or **EDWARD FRANCIS HARRINGTON** also known as **EDWARD HARRINGTON** or any person knowing their whereabouts or claiming to be related to them or **PAMELA FLORENCE SHEAD** deceased please contact The Public Trustee of Queensland, G.P.O. Box 2251 Brisbane 4001, Queensland, Australia (or email maria.murphy@pt.qld.gov.au quoting reference 20567893 and provide full details of their claim.

Notice is hereby given on or after the 1st June 2023 The Public Trustee intends, pursuant to Section 132 of the *Public Trustee Act 1978* to proceed to distribute the assets in the estate of **PAMELA FLORENCE SHEAD** deceased late of 1/26 Alice Street, Mount Isa in the State of Queensland having regard only to the persons whose claims have been established to his satisfaction or who then appear to him to have the best claim in law.

SAMAY ZHOUAND
THE PUBLIC TRUSTEE OF QUEENSLAND AND CEO

M8335

News Limited would like to congratulate the winners of the "Win a Chance to WIN $1 Million!" Promotion:

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Invitation for Consultation: Montara Project and Stag Field

Montara Project

Jadestone Energy (Jadestone) is the operator of the producing Montara Project in Australian waters, approximately 690 km west of Darwin in the Timor Sea. The Montara Project operations involve oil production using wellhead platform (WHP) wells for the Montara field, and subsea wells for the Swift, Skua and Swallow fields. The oil from the subsea wells is piped via flowlines to the unmanned WHP, and then to the Montara Venture floating production storage and offloading (FPSO) facility, which acts as a hub for the project in production since 2013.

Stag Field

Jadestone is also the operator of the producing Stag field in Australian waters and located approximately 60 km northwest of Dampier in the Indian Ocean. The Stag field was developed using a fixed leg, 12 well-slot, manned central processing facility platform in production since 1998. This is connected, by an eight-inch underwater export pipeline, to a pipeline end manifold where shuttle tankers directly load crude oil via a catenary anchor leg mooring buoy.

Environment Plans (EP)

Jadestone is updating the currently approved EPs, the Montara EP for the Montara Project, and the Stag EP for the Stag field. Each EP will govern production and maintenance activities for the next five years. The revised Montara EP and Stag EP will be assessed by the National Offshore Petroleum Safety and Environmental Management Authority for acceptance.

In addition, Jadestone is preparing an EP for the removal of three subsea wellheads at Montara that are no longer in use (the Wellhead Removal EP). This activity is tentatively planned to occur in 2023/2024.

Jadestone is also preparing an EP for the drilling activities at the Stag platform (the Stag Drilling EP). This will include new production wells from recovered well-slots and may include plugging and abandonment of other wells potentially involving wellhead removal.

The purpose of the EPs is to identify the risks and impact of each proposed petroleum activity on the environment. The EPs will also set out measures to reduce identified environmental impacts and describe how and to what level of performance those measures will be implemented throughout each activity.

Jadestone is inviting comments for consideration during the preparation of each of the EPs discussed above.

Further information on Jadestone's Montara Project is available on the company's website at:

www.jadestone-energy.com/assets/australia-portfolio/montara.

Further information on Jadestone's Stag field is available on the company's website at:

www.jadestone-energy.com/assets/australia-portfolio/stag.

Please let us know if you:

- require any further information; and/or
- have any comments on the activity and the potential impacts on your interests.

Jadestone is committed to ongoing dialogue with all its stakeholders and welcomes their comments at any time.

For further information or to make comment please email: consult@jadestone-energy.com.

Jadestone Energy

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THE AUSTRALIAN

CSL gene therapy saving lives, for just $3.5m a dose

JARED LYNCH

As CSL's former chief executive Paul Perreault was packing up his desk in Melbourne last month there was one milestone achieved during his 10 years at the helm that could not escape his attention.

"Who thought CSL would be the first one in the world with gene therapy for haemophilia?" Mr Perreault told this masthead.

"I mean, I can tell you, a decade ago, nobody thought we would."

CSL was originally solely in the plasma business. It was established in World War I as the Commonwealth Serum Laboratories, before branching out into vaccines, floating on the ASX in 1994 and becoming not only one of the biggest companies on the Australian sharemarket but a global pharmaceutical juggernaut.

Last November it took another step in cementing its position in the cutting edge of drug development – an area it spends about $1bn a year on – when the US Food and Drug Administration approved CSL's new treatment Hemgenix.

The drug injects a functioning copy of the blood clotting gene into a patient with haemophilia B, providing a single dose fix to the debilitating illness that plagued the European royalty in the 19th and early 20th centuries and affects about one in 40,000 males today.

Crucially, the one shot replaces a lifetime of fortnightly infusions to control the blood disorder, effectively curing a patient.

European regulators were quick to follow the US FDA in approving Hemgenix. But seemingly miraculous treatment comes at a cost – about $US3.5m ($5.23m) a dose – becoming the world's most expensive drug.

It is one of the handful of approved gene therapies that have sparked a wave of drugs priced in the millions of dollars per patient. The high cost of the drugs – which promise to cure or treat diseases in a single course – has raised eyebrows. After all, big pharma was previously reluctant to charge any more than six figures for a drug.



AARON FRANCIS

Former CSL chief executive Paul Perreault is proud of CSL's accomplishments

But patients say the massive expense is worth it, particularly when amortised over their lifetime. It is this rationale health funders need to face as they potentially baulk at paying the handsome fee for these groundbreaking treatments — which have been approved to not only cure blood disorders such as Haemophilia B, but also muscle wasting conditions and rare childhood neurological diseases.

Steven Yatomi-Clarke, chief executive of ASX-listed biotech Prescient Therapeutics – which has developed a gene therapy to treat a rare and aggressive form of lymphoma – says while the treatments are expensive, they flip the traditional model of big pharma.

To put it in context, current haemophilia treatments cost $US250,000 to $US500,000 per patient, per year, for the rest of their lives.

"It's really flying in the face of the big pharma business model in many ways. They want someone to stay on a drug for a very long time ... that's the big pharma model," Mr Yatomi-Smith says.

"But gene and cell therapy throws that playbook out the window. It's a single infusion.

"In the case of rare childhood diseases, if my child was normally not going to live past the age of eight years old, and you can cure my son, my son or daughter, then they're going to live a long and productive life. They're going to be paying taxes, consuming goods and services. All of a sudden, $2m or $3m looks to be a bargain."

> 'All of a sudden, $2m or $3m looks to be a bargain'
>
> **STEVEN YATOMI-CLARKE**
> PRESCIENT THERAPEUTICS CEO

But government health budgets are under pressure as people live longer with chronic conditions. According to the latest spending data, Australian federal and state governments spent $142.6bn on healthcare in the 2020 financial year, a 5 per cent increase on the previous year. This accounted for 70 per cent of overall health spending, which totalled $202.5bn.

Around the world, health spending accounts for about 10 per cent of global GDP, and the World Health Organisation forecasts that proportion to increase to 13 per cent in coming years.

For CSL, the move into gene therapy was not as dramatic as it sounds. For years the company produced a plasma-derived product that replaced the missing blood clotting factor IX in patients with haemophilia B.

CSL's head of research and development and chief medical officer, Bill Mezzanotte, said that product "helped patients a lot", but it required an intravenous injection about three times a week.

Then last decade it launched Idelvion: a recombinant factor IX product that lengthened the treatment time for patients to once every two weeks. It continues to remain popular, with sales leaping 22 per cent to $US363m in the six months to December 31.

"It's still an IV infusion on a regular basis and we thought we could do better. And because we had deep scientific and commercial expertise, we knew what we were looking for," Dr Mezzanotte said.

The solution was found when it licensed Dutch biotech uniQure's gene therapy technology, which underpins Hemgenix. CSL funded the later stage clinical trials and has the global rights to commercialise the treatment.

Wilsons analyst Shane Storey said the partnership allowed CSL to expand and fortify its "leadership position in haemophilia B".

"The potential to replace more than 10 years of regular prophylactic management for these patients with a single shot of Hemgenix is a powerful driver of sector dominance, which brings with it margin expansion and sales leverage opportunities within the CSL Behring recombinant haemophilia," Dr Wilson said in a note to investors when the FDA granted its approval.

For Dr Mezzanotte, it's about balance. He hopes the company's foray into gene therapy will not cannibalise its existing businesses.

"We won't walk away from plasma therapy, we won't walk away from recombinants. We believe they can all work together for the right patients because even Hemgenix won't be right for every patient," he said, adding it had nothing to do with the gene therapy's price.

"Not every patient would be a good candidate. Either their bleeding is not severe enough, and look, first of all, we still have to do studies in children. And people may be happy with Ildelvion.

"So, we'll still have Ildelvion available for many of those patients where (Hemgenix) is not right for them."

In regard to children, CSL's vice president of research Michael Wilson says the underlying technology has limitations.

TENDERS

www.theaustralian.com.au

ACARP

The Australian Coal Industry's Research Program

ACARP assists the Australian coal industry in developing and adopting technology and mining practice that leads the world. ACARP is seeking research in the following categories driving minimised emissions and environmental impact of industry:

- Underground Mining
- Open Cut Mining
- Environment and Community
- Coal Preparation
- Technical Market Support
- Mine Site Greenhouse Gas Mitigation

This program is entirely funded, owned and managed by the black coal producers.

Additional information including specific research priorities, the proposal format and proposal summary sheet can be obtained from **www.acarp.com.au** or by phoning 07 3225 3600.

The closing date for proposals is Wednesday, 26 April 2023.

DEATH & FUNERAL NOTICES

www.theaustralian.com.au

JOHNSTON AC, Robert Alan (Bob)

Dearly loved and loving Husband of Judith. Dearly loved Husband of Verna (dec). Devoted Father of Ian (dec), Bruce (dec), Helen and Margaret. Father-in-law of Linda, Jenny, Victor and Graeme. Proud Grandfather of Rebeccah, Cameron, Andrew, Stephanie, Melanie, Philippa, Alexander, Alana, Alison and Rachel. Fond Great-Grandfather of their 17 Children.

Always in our Hearts

A Service for Bob will be held on Thursday, 30th March, 2023 commencing 11am, in St Stephen's Uniting Church, Macquarie Street, Sydney. In lieu of flowers, please consider a donation in Bob's memory to The Brain and Mind Centre - https://www.sydney.edu.au/engage/give/how-to-donate.html

For details of how to live stream this service please contact enquiries@waltercarter.com.au

WALTER CARTER
CRAFTING FAREWELLS
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26-year-old Edward Craven paid more than $80m for 29-31 St Georges Rd, Toorak

Billionaire central: The richest suburbs

Continued from Page 17

Toorak. Many of Melbourne's blue bloods gather around four main streets: Albany Rd, Irving Rd, Clendon Rd and St Georges Rd.

Vaucluse (12)

Billionaire Harry Triguboff is one big name who lives in Sydney's prime waterfront location. He and his wife have one of the largest privately held landholdings on Vaucluse's waterfront, which includes two dwellings.

Arthur Tzaneros, who owns ACFS Port Logistics with father Terry, paid $38m in 2021 for a mansion on Olola Ave, complete with a tennis court and swimming pool.

But the biggest splash of late was fashion mogul Nicky Zimmermann paying $60m last December for a three-storey residence on about 1700sq m of waterfront.

There are formal and informal living and dining rooms, a rumpus and billiard room, darkroom, home office, cellar, six bedrooms, nine bathrooms and garaging for four cars. There's also a boat shed, jetty and sauna.

Meanwhile, Jerry Schwartz is renovating his $67m Phoenix Acres waterfront estate, which could include an ice rink, lap pool and cinema.

But they are all overshadowed by Menulog co-founder Leon Kamenev, who is putting the finishing touches to his lavish mansion that neighbours describe as "the best house in Sydney".

Kamenev paid $80m to amalgamate several sites over 4200sq m of prime waterfront.

Point Piper (12)

Home to Australia's most expensive residential sale, Point Piper is where Australia's technology titans spend their money.

Atlassian co-founder Scott Farquhar has taken possession of his $130m Uig Lodge without the need for a mortgage.

The cash transaction came about five years after Farquhar shelled out $71m for an estate in the same suburb, though his refurbishment plans for that house have been stymied.

Farquhar's $130m buy eclipsed the previous record of $100m by his Atlassian co-founder Mike Cannon-Brookes, who bought the 1.12ha Fairwater in 2018.

Mosman Park (6)

Billionaire mining magnate Chris Ellison is the biggest name in Perth's most wealthy enclave. Ellison set a record in 2009 when he paid $57.5m for Angela Bennett's mansion on Bennett St.

Five years later he snapped up two neighbouring properties for about $12m. Nearby Saunders St is also considered an elite area.

Hunters Hill (6)

Billionaire Lang Walker's Millthorpe estate has been in his family's hands since 1986, when he paid $4.25m for the 7280sq m site on Sydney's lower north shore.

The Gothic Revival residence was built in 1841 by the fourth Surveyor-General Sir Thomas Mitchell. Len Ainsworth is another resident, as is Dick Honan.

TRUSTEES ACT 1962
DECEASED ESTATES
Notice to Creditors and Claimants

Bruce Haulgrave Cullen, late of Castledare Retirement Village, 108 Fern Road, Wilson, Western Australia, deceased.
Creditors and other persons having claims (to which Section 63 of the Trustees Act 1962 relates) in respect of the estate of the deceased, who died on the 14th day of May 2021 are required by the Executors Lawrence James Richards and Gary Francis Glossop of 6 Kent Street Bicton Western Australia 6157, to send particulars of their claims within one month of the date of publication of this notice to them, after which date they may convey or distribute the assets, having regard only to claims of which they then have notice.

Public Notices

GENERAL

SEEKING WHEREABOUTS OF Neil Lambrecht and **Lee Hutchison**, who worked at Nookawarra Station, via Cue WA between 1977 and 1981. Please contact Rodney **0428 881 115** for reunion.

Psychics and Clairvoyants

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INTRODUCTIONS



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Personal

GENERAL

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Jadestone Energy

INVITATION FOR CONSULTATION: MONTARA PROJECT AND STAG FIELD

Montara Project
Jadestone Energy (Jadestone) is the operator of the producing Montara Project in Australian waters, approximately 690 km west of Darwin in the Timor Sea. The Montara Project operations involve oil production using wellhead platform (WHP) wells for the Montara field, and subsea wells for the Swift, Skua and Swallow fields. The oil from the subsea wells is piped via flowlines to the unmanned WHP, and then to the Montara Venture floating production storage and offloading (FPSO) facility, which acts as a hub for the project in production since 2013.

Stag Field
Jadestone is also the operator of the producing Stag field in Australian waters and located approximately 60 km northwest of Dampier in the Indian Ocean. The Stag field was developed using a fixed leg, 12 well-slot, manned central processing facility platform in production since 1998. This is connected, by an eight-inch underwater export pipeline, to a pipeline end manifold where shuttle tankers directly load crude oil via a catenary anchor leg mooring buoy.

Environment Plans (EP)
Jadestone is updating the currently approved EPs, the Montara EP for the Montara Project, and the Stag EP for the Stag field. Each EP will govern production and maintenance activities for the next five years. The revised Montara EP and Stag EP will be assessed by the National Offshore Petroleum Safety and Environmental Management Authority for acceptance.

In addition, Jadestone is preparing an EP for the removal of three subsea wellheads at Montara that are no longer in use (the Wellhead Removal EP). This activity is tentatively planned to occur in 2023/2024.
Jadestone is also preparing an EP for the drilling activities at the Stag platform (the Stag Drilling EP). This will include new production wells from recovered well-slots and may include plugging and abandonment of other wells potentially involving wellhead removal.

The purpose of the EPs is to identify the risks and impact of each proposed petroleum activity on the environment. The EPs will also set out measures to reduce identified environmental impacts and describe how and to what level of performance those measures will be implemented throughout each activity.
Jadestone is inviting comments for consideration during the preparation of each of the EPs discussed above.

Further information on Jadestone's Montara Project is available on the company's website at: *www.jadestone-energy.com/assets/australia-portfolio/montara.*

Further information on Jadestone's Stag field is available on the company's website at: *www.jadestone-energy.com/assets/australia-portfolio/stag.*

Please let us know if you:
- require any further information; and/or
- have any comments on the activity and the potential impacts on your interests.

Jadestone is committed to ongoing dialogue with all its stakeholders and welcomes their comments at any time.

For further information or to make comment please email:
consult@jadestone-energy.com

GOVERNMENT OF WESTERN AUSTRALIA

ROTTNEST ISLAND AUTHORITY

Help shape the future of Wadjemup / Rottnest Island

Rottnest Island Management Plan 2023-28

Public notification of planning proposal Rottnest Island Authority Act 1987

Wadjemup / Rottnest Island has firmly established itself as Western Australia's leading tourism destination.

The island provides a quintessential Australian experience combining holiday activities with the pristine natural environment of a Class A reserve and marine sanctuaries, a rich cultural history, and unique opportunities for the occasional or regular visitor.

Offering spectacular Indian Ocean bays, sheltered beaches and the world-famous quokka, the island is a favourite holiday destination for local, domestic and international visitors.

A short boat ride from Perth, Fremantle and Hillarys, the island is entering a period of renewal and dynamic infrastructure change. This has included more than $100 million for major upgrades to the island's energy and water networks, roads, jetties and visitor amenities.

Rottnest Island Authority (RIA) seeks community views on the proposed Rottnest Island Management Plan (RIMP) 2023-28 which has been prepared in accordance with the *Rottnest Island Authority Act 1987* (section 19).

The purpose of the RIMP is to guide the island's key management actions for the period 1 July 2023 - 1 July 2028. The RIMP captures the McGowan Government's priority tourism, recreational, infrastructure, environmental, cultural and heritage initiatives for the next five years.

RIA welcomes feedback from all island stakeholders, including the general community, on the draft RIMP 2023-28.

The draft RIMP 2023-28 includes the draft Rottnest Island Land Use Plan. The draft Land Use Plan defines the permitted land uses within the settlement and importantly classifies the remainder of the island as a reserve for the purpose of conservation and recreation.

The draft RIMP document will be available:

- online at ria.wa.gov.au, or
- to view at:
  - o Rottnest Island Authority offices at 1 Mews Rd, Fremantle between the hours of 8.30am and 5.00pm, Monday to Friday; or
  - o Rottnest Island Visitor Centre (on Rottnest Island) between the hours of 7.30am and 5.00pm, Monday to Sunday.

Written submissions on the draft RIMP 2023-28 can be:

- emailed to **enquiries@rottnestisland.com**
- delivered to RIA offices at Fremantle or Rottnest Island, or
- posted to PO Box 693, Fremantle WA 6959.

The closing date for submissions is 5pm on Tuesday 9 May 2023. Submissions will be reviewed, and an analysis of stakeholder feedback will be published on RIA's website; however, responses will not be provided to individual submissions.

Rottnest Island Authority

PO Box 693, FREMANTLE WA 6959

DBCA_14071

2000M SUITS CASCADIAN

JAY ROONEY

Trainer James Cummings is confident Cascadian can go one better when he backs up in Saturday's $3 million Group 1 Australian Cup (2000m) at Flemington.

The dual Group 1 winner stormed home to run a close second to Mr Brightside in the $5m All-Star Mile (1600m) at Moonee Valley last Saturday.

Cummings expects the evergeen eight-year-old to relish stepping up in distance at Flemington.

"He pulled up beautifully from the All-Star Mile," Cummings said.

"The Australian Cup looks a really intriguing race for him, third-up from a spell. For his first run at Moonee Valley against a horse who loves the Valley in Mr Brightside, I thought he acquitted himself exceptionally well.

"If he got into the clear a little earlier or had a better gate, what might have been?

"He should be well suited up to 2000m in a solidly run Australian Cup."

Cascadian has been backed from $4.60 into $3 favouritism.

He has drawn barrier 11 with Ben Melham booked to ride. Noncomforist, an impressive first-up winner of the Blamey Stakes (1600m) at Flemington, is the second favourite at $6.50. Cummings and Melham will also combine with consistent sprinter Kallos in the Listed ATA/Bob Hoysted Handicap (1000m) at Flemington.

Kallos is a $6 chance after winning first-up down the Flemington straight on March 4.

"Kallos will need to be a little bit better again, but he puts himself right into the picture from the draw with plenty of natural pace," Cummings said.

"He enjoys the straight at Flemington, he ran beautifully there at his first run as a gelding and I can see him running another good race here.

"He gets a good draw and that sets up pretty well."

Results

MT BARKER

RACE 1: WORK HOME FRONT 10, MOVING ON 1, FIRST CONTACT 9. TAB Nos: 10 1 9. SO: $11.20; pl: $2.60; $4.60; $2.00. Quinella: $58.50. Exacta: $171.40. Trifecta: (10-1-9) $1,089.10. First 4: (10-1-9-6) $5,145.40; Scratched 3 5 13.
RACE 2: MINE HOST 8, ARAMAT 9, WIN TO RETIRE 13. TAB Nos: 8 9 13. SO: $3.10; pl: $1.90; $3.00; $2.90. Quinella: $10.30. Exacta: $15.90. Trifecta: (8-9-13) $113.90. First 4: (8-9-13-14) $2,408.70. Double: (10-8) $40.00; Scratched 12.
RACE 3: DIVINE MERCY 5, DIGITAL MISS 2, ROSE OF DENMARK 8. TAB Nos: 5 2 8. SO: $5.00; pl: $1.40; $1.04; $2.70. Quinella: $4.10. Exacta: $11.60. Trifecta: (5-2-8) $52.70. First 4: (5-2-8-3) $226.30. Double: (8-5) $20.10; Scratched 7.
RACE 4: OXBRIDGE 5, GOD'S MOMENT 2, WINSALOT 6. TAB Nos: 5 2 6. SO: $5.00; pl: $1.90; $1.20; $2.30. Quinella: $8.60. Exacta: $26.80. Trifecta: (5-2-6) $127.80. First 4: (5-2-6-4) $865.80. Double: (5-5) $33.80. Quaddie: (10-8-5-5) $1,553.90; Scratched 9.
RACE 5: BONNIE LAD 4, MILLIVOY 1, SPEEDY PYE 9. TAB Nos: 4 1 9. SO: $4.50; pl: $1.60; $1.04; $2.10. Quinella: $4.50. Exacta: $8.50. Trifecta: (4-1-9) $54.10. First 4: (4-1-9-3) $430.20. Double: (5-4) $15.80; No scratchings.
RACE 6: HIGHFRIAR 10, SNEAKY FOX 6, TREVELLO 7. TAB Nos: 10 6 7. SO: $27.90; pl: $6.50; $1.20; $2.30. Quinella: $38.00. Exacta: $130.70. Trifecta: (10-6-7) $422.40. First 4: (10-6-7-11) $3,152.40. Double: (4-10) $143.20; No scratchings.
RACE 7: SCREAM IN BLUE 7, BENTLEY BEAU 3, BLAISZEN CAZAH 5. TAB Nos: 7 3 5. SO: $18.10; pl: $4.40; $1.50; $1.60. Quinella: $26.30. Exacta: $71.10. Trifecta: (7-3-5) $334.50. First 4: (7-3-5-4) $1,730.10. Double: (10-7) $399.50. Quaddie: (5-4-10-7) $19,445.50; Scratched 11 12 13 14.

GEELONG

RACE 1: CZARACER 3, ANOTHER NEPHEW 1. TAB Nos: 3 1. SO: $3.60; pl: $1.60; $2.10; NTD. Quinella: (1-3) $5.70. Exacta: (3-1) $11.10. Trifecta: (3-1-5) $38.40. First 4: (3-1-5-2) $57.70; No scratchings.
RACE 2: RUSSIAN FRONT 7, NEW HAMPSHIRE 4, HURRICANE THUNDER 2. TAB Nos: 7 4 2. SO: $21.10; pl: $5.20; $5.00; $1.30. Quinella: $158.00. Exacta: $229.90. Trifecta: (7-4-2) $1,220.10. First 4: (7-4-2-11) $4,367.00. Double: (3-7) $85.10; Scratched 3 10 14 15.
RACE 3: FIFTYSEVENYEARS 2, BACKLIT BEAUTY 14, TENACE 5. TAB Nos: 2 14 5. SO: $3.60; pl: $1.50; $10.90; $2.70. Quinella: $127.40. Exacta: $138.60. Trifecta: (2-14-5) $914.60. First 4: (2-14-5-15) $12,661.20. Double: (7-2) $137.70; Scratched 1 4 6 10.
RACE 4: MOOTESSA 9, BLUE CHIP GIRL 5, COUNT NICHOLAS 3. TAB Nos: 9 5 3. SO: $4.30; pl: $1.70; $2.40; $1.70. Quinella: $18.90. Exacta: $36.70. Trifecta: (9-5-3) $132.20. First 4: (9-5-3-7) $960.00. Double: (2-9) $18.20. Quaddie: (3-7-2-9) $2,178.20; Scratched 1.
RACE 5: CRYSTALAA 4, VAGRANT 9, NASDANA 14. TAB Nos: 4 9 14. SO: $4.10; pl: $1.80; $1.20; $4.60. Quinella: $6.30. Exacta: $12.90. Trifecta: (4-9-14) $121.10. First 4: (4-9-14-12) $1,191.20. Double: (9-4) $26.20; Scratched 2 5 8 11 13 15.
RACE 6: SHOW ME CHAMPAGNE 2, MISS LANGTRY 1. TAB Nos: 2 1. SO: $4.00; pl: $1.80; $5.30; NTD. Quinella: (1-2) $18.10. Exacta: (2-1) $47.60. Trifecta: (2-1-4) $114.50. First 4: (2-1-4-7) $667.90. Double: (4-2) $28.90; Scratched 5.
RACE 7: PERITO MORENO 9, KERMY 2. TAB Nos: 9 2. SO: $8.80; pl: $3.40; $1.60; NTD. Quinella: (2-9) $9.60. Exacta: (9-2) $27.90. Trifecta: (9-2-8) $49.30. First 4: (9-2-8-7) $158.30. Double: (2-9) $38.60; Scratched 3 5 6 10.
RACE 8: KAPALUA SUNSET 7, VIVACIOUS AWARD 10, MORRISSETTE 9. TAB Nos: 7 10 9. SO: $4.20; pl: $1.60; $2.10; $2.70. Quinella: $11.70. Exacta: $25.60. Trifecta: (7-10-9) $128.30. First 4: (7-10-9-3) $826.90. Double: (9-7) $33.70. Quaddie: (4-2-9-7) $981.50; Scratched 1 2 5 13 14.

ALBURY

RACE 1: INDIAN SOLDIER 4, NUTBUSH AMBUSH 5, TOO SHARP 7. TAB Nos: 4 5 7. SO: $4.50; pl: $1.80; $1.70; $1.50. Quinella: $8.00. Exacta: $18.60. Trifecta: (4-5-7) $38.40. First 4: (4-5-7-9) $235.40; Scratched 2 3 8.
RACE 2: PERFECT ILLUSION 4, FESTIVUS 5. TAB Nos: 4 5. SO: $9.00; pl: $3.90; $1.20; NTD. Quinella: (4-5) $8.10. Exacta: (4-5) $31.60. Trifecta: (4-5-8) $135.50. First 4: (4-5-8-6) $551.70. Double: (4-4) $48.10; Scratched 7 9 10.
RACE 3: DIESEL 7, FOX APPEAL 6, TAPA CAPALL 4. TAB Nos: 7 6 4. SO: $11.40; pl: $2.70; $3.90; $1.04. Quinella: $66.80. Exacta: $125.40. Trifecta: (7-6-4) $443.60. First 4: (7-6-4-5) $7,668.60. Double: (4-7) $98.50; Scratched 3.
RACE 4: SIZZLING CAT 7, LES GOH 11, CLIFF HOUSE 4. TAB Nos: 7 11 4. SO: $9.20; pl: $2.40; $3.20; $2.20. Quinella: $44.40. Exacta: $107.30. Trifecta: (7-11-4) $320.70. First 4: (7-11-4-2) $2,324.00. Double: (7-7) $135.50. Quaddie: (4-4-7-7) $5,708.80; Scratched 5 13 14 15.
RACE 5: VERY SHAMUS 16, WONDEREACH 3, IMASUPERSTAR 5. TAB Nos: 16 3 5. SO: $64.40; pl: $9.00; $1.04; $3.60. Quinella: $66.40. Exacta: $287.90. Trifecta: (16-3-5) $1,758.20. First 4: (16-3-5-14) $14,097.70. Double: (7-16) $420.70; Scratched 2 6 9 18.
RACE 6: SMILER MARSHALL 2, KAURAVA 11, BLUEGRASS BIJOUX 13. TAB Nos: 2 11 13. SO: $12.00; pl: $3.70; $1.90; $1.50. Quinella: $29.20. Exacta: $69.20. Trifecta: (2-11-13) $318.70. First 4: (2-11-13-5) $1,252.40. Double: (16-2) $1,201.00; Scratched 3 6 7 8 9 12 16 18.
RACE 7: BELTORO 4, MARSABIT 9, MANKAYAN 1. TAB Nos: 4 9 1. SO: $4.90; pl: $2.10; $6.80; $1.20. Quinella: $57.40. Exacta: $97.80. Trifecta: (4-9-1) $330.30. First 4: (4-9-1-14) $3,938.50. Double: (2-4) $65.80; Scratched 2 6 12.

TOWNSVILLE

RACE 1: CAMPIONE 5, MISHANI PATRIOT 3. TAB Nos: 5 3. SO: $1.20; pl: $1.04; $1.90; NTD. Quinella: (3-5) $2.80. Exacta: (5-3) $3.40. Trifecta: (5-3-2) $19.30. First 4: (5-3-2-1) $38.50; Scratched 8.
RACE 2: CASTILE 3. TAB Nos:. SO: $2.20; pl:; NTD. Quinella: (1-3) $2.10. Exacta: (3-1) $3.30. Trifecta: (3-1-5) $5.40. Double: (5-3) $3.20; Scratched 2 4 6.
RACE 3: KING'S HALO 3, EL OF A SENORITA 4, YANKEE BLOSSOM 8. TAB Nos: 3 4 8. SO: $5.70; pl: $1.60; $1.04; $1.70. Quinella: $2.70. Exacta: $9.10. Trifecta: (3-4-8) $17.70. First 4: (3-4-8-1) $45.40. Double: (3-3) $19.00; No scratchings.
RACE 4: INCLUSION 8, SHOW AND GO 6, DONENOTHING 2. TAB Nos: 8 6 2. SO: $5.00; pl: $1.30; $1.30; $1.70. Quinella: $7.30. Exacta: $22.70. Trifecta: (8-6-2) $54.60. First 4: (8-6-2-1) $567.00. Double: (3-8) $42.30. Quaddie: (5-3-3-8) $179.30; No scratchings.
RACE 5: CIAO BICKY 2, MAGNETIC DRIVE 3. TAB Nos: 2 3. SO: $3.50; pl: $2.00; $1.20; NTD. Quinella: (2-3) $2.20. Exacta: (2-3) $5.70. Trifecta: (2-3-8) $18.90. First 4: (2-3-8-6) $59.30. Double: (8-2) $31.60; Scratched 1 4.
RACE 6: TIERRA DEL FUEGO 1, IT'S A PLOY 2, CAT IN THE RAINE 6. TAB Nos: 1 2 6. SO: $3.40; pl: $1.50; $2.70; $1.40. Quinella: $22.50. Exacta: $35.10. Trifecta: (1-2-6) $92.60. First 4: (1-2-6-9) $480.60. Double: (2-1) $21.90; Scratched 3.
RACE 7: DAWN STRIKE 5, NEWITT 1, EAGLE EYE STAR 2. TAB Nos: 5 1 2. SO: $6.10; pl: $2.70; $1.80; $1.90. Quinella: $33.20. Exacta: $63.60. Trifecta: (5-1-2) $274.30. First 4: (5-1-2-3) $1,018.60. Double: (1-5) $35.10; Scratched 6 8.
RACE 8: DAWN TOO GOOD 1, PROXIMATE CAUSE 3, BAY OF BENGAL 8. TAB Nos: 1 3 8. SO: $4.90; pl: $2.00; $1.20; $3.20. Quinella: $11.10. Exacta: $23.10. Trifecta: (1-3-8) $245.10. First 4: (1-3-8-2) $913.10. Double: (5-1) $33.10. Quaddie: (2-1-5-1) $593.20; Scratched 9.

MOONEE VALLEY

RACE 1: CAP DE JOIE 8, ASPEN COLORADO 2, SOARING EAGLE 10. TAB Nos: 8 2 10. SO: $2.70; pl: $1.30; $3.30; $2.50. Quinella: $17.00. Exacta: $24.30. Trifecta: (8-2-10) $140.10. First 4: (8-2-10-5) $999.40; No scratchings.
RACE 2: OUR HEIDI 5, IT'S KIND OF MAGIC 4, ZION 3. TAB Nos: 5 4 3. SO: $4.20; pl: $1.60; $2.00; $2.50. Quinella: $12.40. Exacta: $30.70. Trifecta: (5-4-3) $125.20. First 4: (5-4-3-10) $615.70. Double: (8-5) $7.90; Scratched 1 7.
RACE 3: BRAVE MEAD 1, ANA JAAHZA 6. TAB Nos: 1 6. SO: $1.30; pl: $1.04; $2.20; NTD. Quinella: (1-6) $3.30. Exacta: (1-6) $3.40. Trifecta: (1-6-7) $5.40. First 4: (1-6-7-9) $19.20. Double: (5-1) $7.00; Scratched 2 3 4 5 10.
RACE 4: GOLDEN CRUSADER 1, MIXMULTI 12, TEOFILO STAR 2. TAB Nos: 1 12 2. SO: $3.20; pl: $1.50; $2.90; $2.10. Quinella: $15.90. Exacta: $28.20. Trifecta: (1-12-2) $151.40. First 4: (1-12-2-10) $2,178.10. Double: (1-1) $4.60. Quaddie: (8-5-1-1) $56.90; Scratched 4 6 9.
RACE 5: SIRILEO MISS 2, REVOLUTIONARY MISS 8, DENY KNOWLEDGE 4. TAB Nos: 2 8 4. SO: $3.60; pl: $1.40; $1.30; $3.10. Quinella: $3.70. Exacta: $9.20. Trifecta: (2-8-4) $60.20. First 4: (2-8-4-1) $167.40. Double: (1-2) $10.70; No scratchings.
RACE 6: UNFLINCHING 2, FOXICON 8, HOME RULE 6. TAB Nos: 2 8 6. SO: $3.40; pl: $1.40; $1.10; $2.20. Quinella: $2.20. Exacta: $5.50. Trifecta: (2-8-6) $27.10. First 4: (2-8-6-4) $68.00. Double: (2-2) $15.90; Scratched 1 7 9 10.
RACE 7: IMPERATRIZ 11, BELLA NIPOTINA 8, ROCH 'N' HORSE 9. TAB Nos: 11 8 9. SO: $3.70; pl: $1.70; $2.70; $4.50. Quinella: $18.00. Exacta: $28.90. Trifecta: (11-8-9) $431.20. First 4: (11-8-9-10) $3,693.60. Double: (2-11) $14.30; Scratched 2 14.
RACE 8: PAPILLON CLUB 1, AMATI 4, TASS 6. TAB Nos: 1 4 6. SO: $1.60; pl: $1.04; $2.70; $2.10. Quinella: $12.60. Exacta: $17.20. Trifecta: (1-4-6) $94.20. First 4: (1-4-6-2) $232.50. Double: (11-1) $7.30. Quaddie: (2-2-11-1) $98.20; Scratched 3.

SUNSHINE COAST

RACE 1: TENGUN READY 2, DIBBA DOBBA 6, KING YOSHI 1. TAB Nos: 2 6 1. SO: $9.40; pl: $2.30; $1.04; $2.50. Quinella: $11.30. Exacta: $29.40. Trifecta: (2-6-1) $93.00. First 4: (2-6-1-4) $252.90; No scratchings.
RACE 2: AMERICAN PIONEER 4, LOOSE UNIT 2, CALL ME HILTON 6. TAB Nos: 4 2 6. SO: $4.00; pl: $1.50; $1.20; $1.90. Quinella: $4.30. Exacta: $13.00. Trifecta: (4-2-6) $58.80. First 4: (4-2-6-5) $269.70. Double: (2-4) $44.70; No scratchings.
RACE 3: BURNT BY BERNIE 2, AZURE PRIDE 1, DIFFERENT ROAD 5. TAB Nos: 2 1 5. SO: $2.90; pl: $1.50; $1.30; $1.20. Quinella: $4.30. Exacta: $10.00. Trifecta: (2-1-5) $22.50. First 4: (2-1-5-3) $53.70. Double: (4-2) $11.40; Scratched 4 10 12.

ALBION PARK

TROT 1: MISTER DOMINGO 6, TOMMY BLIGH 3. TAB Nos: 6 3. SO: $2.30; pl: $1.40; $3.10; NTD. Quinella: (3-6) $6.70. Exacta: (6-3) $8.40. Trifecta: (6-3-4) $95.60. First 4: (6-3-4-5) $386.30; No scratchings.
TROT 2: JILLIBY CHAMBERS 7, MAYWYNS LA NINA 6, SHE DAZZLES 8. TAB Nos: 7 6 8. SO: $2.60; pl: $1.40; $1.50; $3.60. Quinella: $3.20. Exacta: $7.40. Trifecta: (7-6-8) $59.00. First 4: (7-6-8-5) $192.00. Double: (6-7) $9.20; No scratchings.
TROT 3: MISS PAU 3, MISTER WOODPORT 7, SPORTY AZZ 9. TAB Nos: 3 7 9. SO: $3.00; pl: $1.80; $2.10; $1.90. Quinella: $16.80. Exacta: $19.50. Trifecta: (3-7-9) $103.90. First 4: (3-7-9-10) $479.70. Double: (7-3) $17.30; No scratchings.
TROT 4: VANITY BAY 10, TORQUE ONETWOTHREE 4, TACTFILLY MIRACLE 1. TAB Nos: 10 4 1. SO: $5.00; pl: $1.40; $3.50; $1.50. Quinella: $27.40. Exacta: $38.60. Trifecta: (10-4-1) $193.30. First 4: (10-4-1-2) $901.50. Double: (3-10) $27.60. Quaddie: (6-7-3-10) $190.20; Scratched 5.
TROT 5: TORQUE LIKE MOTION 4, SUNRISE RUBY 3, ROCK SUPREME 7. TAB Nos: 4 3 7. SO: $2.90; pl: $1.40; $2.80; $3.00. Quinella: $15.20. Exacta: $14.20. Trifecta: (4-3-7) $122.90. First 4: (4-3-7-1) $727.30. Double: (10-4) $27.30; No scratchings.
TROT 6: NO MOTIVE 6, HES SWEET 1, HEY MISTER TAYLOR 3. TAB Nos: 6 1 3. SO: $3.60; pl: $1.80; $6.50; $2.50. Quinella: $39.70. Exacta: $66.10. Trifecta: (6-1-3) $412.00. First 4: (6-1-3-4) $2,845.50. Double: (4-6) $17.10; Scratched 8.
TROT 7: THE GROGFATHER 4, CLASSICMAJOR 3, COMMODORE JUJON 9. TAB Nos: 4 3 9. SO: $10.60; pl: $2.60; $1.70; $2.10. Quinella: $25.70. Exacta: $41.70. Trifecta: (4-3-9) $345.80. First 4: (4-3-9-1) $1,676.60. Double: (6-4) $110.20; No scratchings.
TROT 8: THE WATERBOY 3, LANOCH BOY 4, BOTTLE ROCK 1. TAB Nos: 3 4 1. SO: $3.70; pl: $2.10; $13.30; $1.30. Quinella: $135.50. Exacta: $121.90. Trifecta: (3-4-1) $446.90. First 4: (3-4-1-8) $3,923.10. Double: (4-3) $56.40. Quaddie: (4-6-4-3) $1,050.30; No scratchings.

GLOUCESTER PARK

TROT 1: HECTOR 2, RAVEN BANNER 1, FEELING ACES 10. TAB Nos: 2 1 10. SO: $3.00; pl: $1.20; $1.04; $1.70. Quinella: $1.90. Exacta: $5.50. Trifecta: (2-1-10) $12.50. First 4: (2-1-10-3) $170.00; Scratched 11.
TROT 2: JAMES BUTT 4, MASTER YOSSI 2, GRAN CHICO 3. TAB Nos: 4 2 3. SO: $8.40; pl: $2.10; $2.00; $4.00. Quinella: $15.10. Exacta: $73.50. Trifecta: (4-2-3) $831.90. First 4: (4-2-3-1) $2,335.00. Double: (2-4) $32.40; No scratchings.

NARROGIN

TROT 1: HEZA BEAUTY 1, BATAVIA PLAYBOY 7, GRAPELLIES BOY 2. TAB Nos: 1 7 2. SO: $1.70; pl: $1.30; $1.20; $2.00. Quinella: $5.00. Exacta: $6.30. Trifecta: (1-7-2) $30.20. First 4: (1-7-2-9) $430.20; No scratchings.

Equestrian Notices

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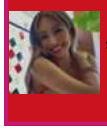
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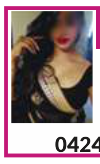
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Notices

Legal Notices

NOTICE IS HEREBY GIVEN that pursuant to **Section 110A** of the *Administration and Probate Act*, the Public Trustee for the Northern Territory intends to administer the estate of **RAMA SAMPSON** late of Hetti Perkins Nursing Home, 9 Percy Court, Alice Springs in the Northern Territory, Artist who died on 5 November 2020, Intestate.
All persons having claims against the estate are requested to submit their claims in writing to the Public Trustee at Nichols Place Cnr Cavenagh & Bennett Streets Darwin, GPO Box 470 Darwin NT 0801, within two calendar months from publication hereto, after which date the Public Trustee will distribute the estate having regard to claims of which it then has notice.
Leonie Smith
Deputy Public Trustee

Meetings

Darwin Community Arts AGM

Darwin Community Arts (DCA) will hold its Annual General Meeting: Saturday, 22nd April 2023, 12:00PM, 3/1 Travers Street (Theatre), Coconut Grove NT 0810, orZoom Meeting (meeting details and password on request)

Agenda:
- Minutes of the 2022 AGM
- Business Arising from the 2022 AGM
- Financial Report
- Annual Report
- Election of Office Bearers
- Appointment of Auditor
- Other Business

Contact 0889457347 or mail@darwincommunityarts.org.au to request a copy of the Financial Report and for enquiries.

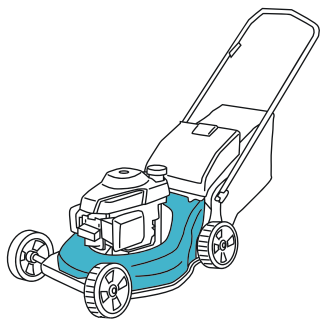
Public Notices

LIQUOR ACT NOTICE OF APPLICATION FOR A LIQUOR LICENCE WITH A MAJOR EVENT AUTHORITY

Rodeo Promotions NT Ltd hereby give notice that they have applied to the Director of Liquor Licensing for a liquor licence with a major event authority for an event known as Northern Golden Buckle Rodeo Series for Round 2 and Round 3 for the premises situated at Robbie Robins Reserve, 762 Stuart Highway, Berrimah.
The Liquor Act 2019 requires a notice to be published of the application along with a detailed description of the business proposed to be conducted, and how to lodge an objection, which may be found at the following address:

https://industry.nt.gov.au/publications/business/publications/liquor-licence-applications or by email directorliquorlicensing.ditt@nt.gov.au

Dated this 25 March 2023

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Public Notices

Jadestone Energy

Invitation for Consultation: Montara Project

Jadestone Energy (Jadestone) is the operator of the producing Montara Project in Australian waters, approximately 690 km west of Darwin in the Timor Sea. The Montara Project operations involve oil production using wellhead platform (WHP) wells for the Montara field, and subsea wells for the Swift, Skua and Swallow fields. The oil from the subsea wells is piped via flowlines to an unmanned wellhead platform, and then to the Montara Venture floating production storage and offloading (FPSO) facility, which acts as a hub for the project in production since 2013.

Jadestone is updating the currently approved environment plan (the Montara EP) for the Montara Project, which will govern production and maintenance activities for the next five years. The revised Montara EP will be assessed by the National Offshore Petroleum Safety and Environmental Management Authority for acceptance.

Jadestone is also preparing an EP for the removal of three subsea wellheads at Montara that are no longer in use (the Wellhead Removal EP). This activity is tentatively planned to occur in 2023/2024.

The purpose of the EPs is to identify the risks and impact of each proposed petroleum activity on the environment. The EPs will also set out measures to reduce identified environmental impacts and describe how and to what level of performance those measures will be implemented throughout the activity.

Jadestone is inviting comments for consideration during the preparation of the EPs discussed above.
Further information on Jadestone's Montara Project is available on the company's website at:
www.jadestone-energy.com/assets/australia-portfolio/montara

Please let us know if you:
- require any further information; and/or
- have any comments on the activity and the potential impacts on your interests.

Jadestone is committed to ongoing dialogue with all its stakeholders and welcomes their comments at any time.

For further information or to make comment please email:
consult@jadestone-energy.com.

LARRAKIA NATION

Independent Director Nominations

Larrakia Nation Aboriginal Corporation is seeking nominations from interested individuals to fill a casual vacancy on its Board.

To be considered, you need to:

- Demonstrate skills and experience relevant to the role of Director of the Corporation
- Describe your vision for the Corporation
- Provide any additional information to support your nomination.

Please email ceo@larrakia.com to request the nomination documentation.

Nominations close at 4pm, Tuesday 4 April 2023.

Nominations can be submitted by hand at the Larrakia Nation Head Office (76 Dick Ward Drive, Coconut Grove) between 8.30-4.30pm or email to ceo@larrakia.com.

All candidates applying for a position on the Board as a Director will require a Directors Identification Number (DIN) abrs.gov.au/director-identification-number/whoneeds-apply-andwhen

For any further queries, please contact ceo@larrakia.com or 0400 984 875.

LIQUOR ACT NOTICE OF APPLICATION FOR A LIQUOR LICENCE WITH MAJOR EVENT AUTHORITY

Italian Festival Association Incorporated hereby give notice that they have applied to the Director of Liquor Licensing for a liquor licence with a major event authority for an event known as the Italian Festival for the premises situated at Fort Hill Parklands, 1 Anchorage Court, Darwin Waterfront.

The Liquor Act 2019 requires a notice to be published of the application along with a detailed description of the business proposed to be conducted, and how to lodge an objection, which may be found at the following address:

https://industry.nt.gov.au/publications/business/publications/liquor-licenceapplications or by email directorliquorlicensing.ditt@nt.gov.au

Dated this 25 March 2023

LARRAKIA NATION

Member Director Nominations

Larrakia Nation Aboriginal Corporation is seeking nominations from interested Larrakia Nation Members to fill a casual vacancy on its Board.

To be considered, you need to:
- Be a member of the Corporation
- Demonstrate skills and experience relevant to the role of Director of the Corporation
- Describe your vision for the Corporation
- Provide any additional information to support your nomination.

Please email ceo@larrakia.com to request the nomination documentation.

Nominations close at 4pm, Tuesday 4 April 2023.

Nominations can be submitted by hand at the Larrakia Nation Head Office (76 Dick Ward Drive, Coconut Grove) between 8.30-4.30pm or email to ceo@larrakia.com.

All candidates applying for a position on the Board as a Director will require a Directors Identification Number (DIN) abrs.gov.au/director-identification-number/whoneeds-apply-andwhen

For any further queries, please contact ceo@larrakia.com or 0400 984 875.

Patty Shack Burger Bar

LIQUOR ACT 2009 NOTICE OF APPLICATION FOR A LIQUOR LICENCE

Empire Hospitality Pty Ltd, hereby gives notice they have applied to the Director of Liquor Licensing for the grant of liquor licence with a restaurant bar authority for the premises to be known as Patty Shack, located at Shop 1 and 2, 38 Progress Drive, Nightcliff NT 0810

This is the first notice and final notice of the application.

A detailed description of the business proposed to be conducted, along with how to lodge an objection may be found at the following address
https://industry.nt.gov.au/publications/business/publications/liquor-licence-applications or by email DirectorLiquorLicensing.DITT@nt.gov.au.

Dated this 25 March 2023

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NTNE01Z01MA - V1

Invitation for Consultation: Montara Project and Stag Field

Jadestone Energy

Montara Project
Jadestone Energy (Jadestone) is the operator of the producing Montara Project in Australian waters, approximately 690 km west of Darwin in the Timor Sea. The Montara Project operations involve oil production using wellhead platform (WHP) wells for the Montara field, and subsea wells for the Swift, Skua and Swallow fields. The oil from the subsea wells is piped via flowlines to the unmanned WHP, and then to the Montara Venture floating production storage and offloading (FPSO) facility, which acts as a hub for the project in production since 2013.

Stag Field
Jadestone is also the operator of the producing Stag field in Australian waters and located approximately 60 km northwest of Dampier in the Indian Ocean. The Stag field was developed using a fixed leg, 12 well-slot, manned central processing facility platform in production since 1998. This is connected, by an eight-inch underwater export pipeline, to a pipeline end manifold where shuttle tankers directly load crude oil via a catenary anchor leg mooring buoy.

Environment Plans (EP)
Jadestone is updating the currently approved EPs, the Montara EP for the Montara Project, and the Stag EP for the Stag field. Each EP will govern production and maintenance activities for the next five years. The revised Montara EP and Stag EP will be assessed by the National Offshore Petroleum Safety and Environmental Management Authority for acceptance.

In addition, Jadestone is preparing an EP for the removal of three subsea wellheads at Montara that are no longer in use (the Wellhead Removal EP). This activity is tentatively planned to occur in 2023/2024.

Jadestone is also preparing an EP for the drilling activities at the Stag platform (the Stag Drilling EP). This will include new production wells from recovered well-slots and may include plugging and abandonment of other wells potentially involving wellhead removal.

The purpose of the EPs is to identify the risks and impact of each proposed petroleum activity on the environment. The EPs will also set out measures to reduce identified environmental impacts and describe how and to what level of performance those measures will be implemented throughout each activity. Jadestone is inviting comments for consideration during the preparation of each of the EPs discussed above.

Further information on Jadestone's Montara Project is available on the company's website at: www.jadestone-energy.com/assets/australia-portfolio/montara.

Further information on Jadestone's Stag field is available on the company's website at: www.jadestone-energy.com/assets/australia-portfolio/stag.

Please let us know if you:
- require any further information; and/or
- have any comments on the activity and the potential impacts on your interests.

Jadestone is committed to ongoing dialogue with all its stakeholders and welcomes their comments at any time.

For further information or to make comment please email: consult@jadestone-energy.com.

GOVERNMENT OF WESTERN AUSTRALIA

NOTICE TO GRANT MINING TENEMENTS

NATIVE TITLE ACT 1993 (CTH) SECTION 29

The State of Western Australia HEREBY GIVES NOTICE that the Minister for Mines and Petroleum, C/- Department of Mines, Industry Regulation and Safety, 100 Plain Street, East Perth WA 6004 may grant the following tenement applications under the *Mining Act 1978*:

Tenement Type	No.	Applicant	Area*	Locality	Centroid	Shire
Exploration Licence	15/1713	JINDALEE RESOURCES LIMITED	9BL	20.1km SW'ly of Kambalda	Lat: 31° 21' S: Long: 121° 33' E	COOLGARDIE SHIRE
Exploration Licence	16/627	NZE MINING RESOURCES PTY LTD	1BL	40.6km SW'ly of Ora Banda	Lat: 30° 37' S: Long: 120° 45' E	COOLGARDIE SHIRE
Exploration Licence	26/245	JAVELIN MINERALS LIMITED	1BL	23.3km NE'ly of Kambalda	Lat: 31° 2' S: Long: 121° 49' E	KALGOORLIE-BOULDER CITY
Exploration Licence	26/248	JAVELIN MINERALS LIMITED	2BL	28.1km NE'ly of Kambalda	Lat: 31° 5' S: Long: 121° 56' E	KALGOORLIE-BOULDER CITY
Exploration Licence	28/3271	CARAWINE RESOURCES LIMITED	12BL	158.2km N'ly of Balladonia	Lat: 31° 2' S: Long: 123° 58' E	KALGOORLIE-BOULDER CITY
Exploration Licence	29/1210	RIO TINTO EXPLORATION PTY LIMITED	16BL	78.5km S'ly of Leinster	Lat: 28° 35' S: Long: 120° 25' E	MENZIES SHIRE
Exploration Licence	38/3617	DUKETON MINING LIMITED	8BL	125km N'ly of Laverton	Lat: 27° 29' S: Long: 122° 20' E	LAVERTON SHIRE
Exploration Licence	38/3714	JINDALEE RESOURCES LIMITED	6BL	21.5km S'ly of Laverton	Lat: 28° 48' S: Long: 122° 19' E	LAVERTON SHIRE
Exploration Licence	38/3811	ENCOUNTER YENEENA PTY LTD	70BL	66.9km NW'ly of Laverton	Lat: 28° 12' S: Long: 121° 54' E	LAVERTON SHIRE, LEONORA SHIRE
Exploration Licence	40/435	ULYSSES MINING PTY LTD	1BL	57.5km SE'ly of Leonora	Lat: 29° 21' S: Long: 121° 34' E	MENZIES SHIRE
Exploration Licence	45/6432	FMG RESOURCES PTY LTD	1BL	40.5km N'ly of Nullagine	Lat: 21° 31' S: Long: 120° 5' E	EAST PILBARA SHIRE
Exploration Licence	45/6471	HAWKER GEOLOGICAL SERVICES PTY LTD	5BL	51km NW'ly of Nullagine	Lat: 21° 42' S: Long: 119° 39' E	EAST PILBARA SHIRE
Exploration Licence	46/1437	ODETTE TWO PTY LTD	5BL	40.4km NE'ly of Nullagine	Lat: 21° 42' S: Long: 120° 27' E	EAST PILBARA SHIRE
Exploration Licence	51/2135	WARRINGA BLUE PTY LTD	1BL	47.4km SE'ly of Peak Hill	Lat: 25° 55' S: Long: 119° 4' E	MEEKATHARRA SHIRE
Exploration Licence	51/2136	LIL BOYTEETH PTY LTD	1BL	48.7km SE'ly of Peak Hill	Lat: 25° 55' S: Long: 119° 5' E	MEEKATHARRA SHIRE
Exploration Licence	51/2140	MT RESOURCES PTY LTD	10BL	76.9km W'ly of Wiluna	Lat: 26° 29' S: Long: 119° 27' E	MEEKATHARRA SHIRE
Exploration Licence	57/1220	AUSTRALIAN TITANIUM PTY LTD	29BL	31.3km N'ly of Sandstone	Lat: 27° 42' S: Long: 119° 16' E	SANDSTONE SHIRE
Exploration Licence	57/1273	AURUMIN GIDGEE PTY LTD	19BL	54.5km NE'ly of Sandstone	Lat: 27° 32' S: Long: 119° 31' E	SANDSTONE SHIRE
Exploration Licence	70/5788	WEPNER EXPLORATION PTY LTD	172BL	76.8km S'ly of Paynes Find	Lat: 29° 57' S: Long: 117° 43' E	DALWALLINU SHIRE, MOUNT MARSHALL SHIRE
Exploration Licence	70/6352	TERRAIN MINERALS LTD	32BL	24.9km E'ly of Mukinbudin	Lat: 30° 53' S: Long: 118° 27' E	MUKINBUDIN SHIRE, NUNGARIN SHIRE
Exploration Licence	70/6359	EXPLORATION AUSTRALIA PTY LTD	11BL	38.4km NE'ly of Mukinbudin	Lat: 30° 36' S: Long: 118° 24' E	MUKINBUDIN SHIRE
Exploration Licence	70/6379	SYNDICATE MINERALS PTY LTD CURIOSITY EXPLORATION PTY LTD	40BL	29.1km NE'ly of Mukinbudin	Lat: 30° 46' S: Long: 118° 27' E	MUKINBUDIN SHIRE
Exploration Licence	77/2948	POLARIS METALS PTY LTD	1BL	58.1km N'ly of Southern Cross	Lat: 30° 42' S: Long: 119° 24' E	YILGARN SHIRE
Exploration Licence	77/3016	SENTINEL EXPLORATION LTD	1BL	150km E'ly of Paynes Find	Lat: 29° 37' S: Long: 119° 10' E	MENZIES SHIRE
Exploration Licence	77/3017	SENTINEL EXPLORATION LTD	3BL	152.1km E'ly of Paynes Find	Lat: 29° 43' S: Long: 119° 9' E	MENZIES SHIRE
Exploration Licence	77/3018 & 77/3035	SENTINEL EXPLORATION LTD	6BL	147.7km E'ly of Paynes Find	Lat: 29° 39' S: Long: 119° 8' E	MENZIES SHIRE
Exploration Licence	77/3039	LI3 MINERALS PTY LTD	65BL	29.9km SE'ly of Marvel Loch	Lat: 31° 41' S: Long: 119° 40' E	YILGARN SHIRE
Exploration Licence	77/3042	SYNDICATE MINERALS PTY LTD CURIOSITY EXPLORATION PTY LTD	53BL	37km NE'ly of Mukinbudin	Lat: 30° 44' S: Long: 118° 32' E	MUKINBUDIN SHIRE, WESTONIA SHIRE
Exploration Licence	77/3043	TERRAIN MINERALS LTD	62BL	33.5km E'ly of Mukinbudin	Lat: 30° 57' S: Long: 118° 33' E	MUKINBUDIN SHIRE, NUNGARIN SHIRE, WESTONIA SHIRE
Exploration Licence	80/5840	CHANDLER, Ross Berge	25BL	137.9km SW'ly of Halls Creek	Lat: 19° 15' S: Long: 126° 56' E	HALLS CREEK SHIRE
Exploration Licence	80/5889	BARACUS PTY LTD	55BL	83.6km S'ly of Wyndham	Lat: 16° 13' S: Long: 127° 58' E	WYNDHAM-EAST KIMBERLEY SHIRE
Exploration Licence	80/5890	BARACUS PTY LTD	21BL	103.3km S'ly of Wyndham	Lat: 16° 23' S: Long: 127° 54' E	WYNDHAM-EAST KIMBERLEY SHIRE
Prospecting Licence	15/6778	POTTER, Vernan John	9.39HA	19km W'ly of Kambalda	Lat: 31° 14' S: Long: 121° 28' E	COOLGARDIE SHIRE
Prospecting Licence	16/3411	FORTUNA RESOURCES PTY LTD	1.81HA	28.8km S'ly of Ora Banda	Lat: 30° 37' S: Long: 121° 3' E	COOLGARDIE SHIRE
Prospecting Licence	25/2713-S	BRANCH, Ian Robert	4.96HA	39.8km NE'ly of Kambalda	Lat: 30° 58' S: Long: 121° 59' E	KALGOORLIE-BOULDER CITY
Prospecting Licence	25/2744-S	BRANCH, Ian Robert	9.93HA	47.7km NE'ly of Kambalda	Lat: 30° 59' S: Long: 122° 6' E	KALGOORLIE-BOULDER CITY
Prospecting Licence	37/9625	MT MALCOLM GOLD HOLDINGS PTY LTD	113.28HA	21.7km E'ly of Leonora	Lat: 28° 56' S: Long: 121° 32' E	LEONORA SHIRE
Prospecting Licence	38/4562-S	LEBILLON, Lou	9.81HA	40.6km SE'ly of Laverton	Lat: 28° 49' S: Long: 122° 44' E	LAVERTON SHIRE
Prospecting Licence	39/6369	KILKENNY MINERALS PTY LTD	114.05HA	43.2km E'ly of Leonora	Lat: 28° 57' S: Long: 121° 45' E	LEONORA SHIRE
Prospecting Licence	39/6379	14 MILE WELL GOLD PTY LTD	182.00HA	44.6km W'ly of Laverton	Lat: 28° 46' S: Long: 121° 58' E	LAVERTON SHIRE
Prospecting Licence	39/6380 & 39/6382	14 MILE WELL GOLD PTY LTD	392.56HA	46.5km W'ly of Laverton	Lat: 28° 46' S: Long: 121° 57' E	LAVERTON SHIRE
Prospecting Licence	39/6381	14 MILE WELL GOLD PTY LTD	160.48HA	44.1km SW'ly of Laverton	Lat: 28° 47' S: Long: 121° 59' E	LAVERTON SHIRE
Prospecting Licence	77/4629-4631	WEST AUSTRALIAN PROSPECTORS PTY LTD	480.01HA	83km NE'ly of Mukinbudin	Lat: 30° 29' S: Long: 118° 54' E	YILGARN SHIRE
Prospecting Licence	77/4634	WHITE, Andrew Roy	167.45HA	8.5km S'ly of Southern Cross	Lat: 31° 17' S: Long: 119° 17' E	YILGARN SHIRE
Prospecting Licence	80/1885	YNEMA, Marten Hendrick	122.79HA	26.5km SE'ly of Halls Creek	Lat: 18° 26' S: Long: 127° 45' E	HALLS CREEK SHIRE

Nature of the act: Grant of prospecting licences which authorises the applicant to prospect for minerals for a term of 4 years from date of grant. Grant of Special Prospecting Licences, which authorises the applicant to prospect for minerals for a term up to 4 years from the date of grant. Grant of exploration licences, which authorises the applicant to explore for minerals for a term of 5 years from the date of grant.

Notification day: 22 March 2023

Native title parties: Under section 30 of the *Native Title Act 1993 (Cth)*, persons have until 3 months after the notification day to take certain steps to become native title parties in relation to applications. The 3 month period closes on **22 June 2023**. Any person who is, or becomes a native title party, is entitled to the negotiation and/or procedural rights provided in Part 2 Division 3 Subdivision P of *Native Title Act 1993 (Cth)*. Enquiries in relation to filing a native title determination application to become a native title party should be directed to the Federal Court of Australia, 1 Victoria Avenue, Perth WA 6000, telephone (08) 9268 7100.

Expedited procedure: The State of Western Australia considers that these acts are acts attracting the expedited procedure. Each licence may be granted unless, within the period of 4 months after the notification day (i.e. **22 July 2023**), a native title party lodges an objection with the National Native Title Tribunal against the inclusion of the statement that the State considers the grant of the licence is an act attracting the expedited procedure. Enquiries in relation to lodging an objection should be directed to the National Native Title Tribunal, Level 5, 1 Victoria Avenue, Perth, or GPO Box 9973, Perth, WA 6848, telephone (08) 9425 1000.

For further information about the act (including extracts of plans showing the boundaries of the applications), contact the Department of Mines, Industry Regulation and Safety, 100 Plain Street, East Perth WA 6004, or telephone (08) 9222 3518.

* - 1 Graticular Block = 2.8 km^2

DMIRS 14143

Classifieds

9482 2300 Place an ad: regionalclassifieds@wanews.com.au *or go to* kimberleyecho.com.au

PUBLIC NOTICES

Rights in Water and Irrigation Act 1914

4738276

Napier Corporation Pty Ltd has made application for a licence under s5C to take 3,000,000 kilolitres per annum of groundwater for the irrigation of 160 hectares of fodder crops/horticulture on Napier Downs Station. People who are interested in the application, may make a written submission within 15 days of this publication to the Department of Water and Environmental Regulation, 27 Victoria Highway, Kununurra, Western Australia 6743, or kununurra@dwer.wa.gov.au quoting DWERT2019~4. If you object to the proposal, you must in your submission specify what actions, if any, would overcome your objections. General enquiries to Program Manager Kimberley Water Licensing on 9166 4100.

KING'S CHURCH KUNUNURRA

4292487

A Christian Pentecostal Church
SUNDAYS at 10.00AM
ARGYLE ROOM @THE KIMBERLEY GRANDE RESORT VICTORIA H'WY KUNUNURRA
Sunday school class for 3-11 yo
Enquiries Ph 0407 937 507
Pastors Bruce & Terri Connell
inc international network of churches
King's Church Is a member of the INC - International Network of Churches (formerly called Christian Outreach Centre) worldwide. Miracles, healings, changed lives and restored relationships are a part of the way God works through this church.
'TO KNOW GOD AND MAKE HIM KNOWN'

Jadestone Energy

Invitation for Consultation: Montara Project

Jadestone Energy (Jadestone) is the operator of the producing Montara Project in Australian waters, approximately 690 km west of Darwin in the Timor Sea. The Montara Project operations involve oil production using wellhead platform (WHP) wells for the Montara field, and subsea wells for the Swift, Skua and Swallow fields. The oil from the subsea wells is piped via flowlines to an unmanned wellhead platform, and then to the Montara Venture floating production storage and offloading (FPSO) facility, which acts as a hub for the project in production since 2013.

Jadestone is updating the currently approved environment plan (the Montara EP) for the Montara Project, which will govern production and maintenance activities for the next five years. The revised Montara EP will be assessed by the National Offshore Petroleum Safety and Environmental Management Authority for acceptance.

Jadestone is also preparing an EP for the removal of three subsea wellheads at Montara that are no longer in use (the Wellhead Removal EP). This activity is tentatively planned to occur in 2023/2024.

The purpose of the EPs is to identify the risks and impact of each proposed petroleum activity on the environment. The EPs will also set out measures to reduce identified environmental impacts and describe how and to what level of performance those measures will be implemented throughout the activity.

Jadestone is inviting comments for consideration during the preparation of the EPs discussed above.

Further information on Jadestone's Montara Project is available on the company's website at:
www.jadestone-energy.com/assets/australia-portfolio/montara

Please let us know if you:
- require any further information; and/or
- have any comments on the activity and the potential impacts on your interests.

Jadestone is committed to ongoing dialogue with all its stakeholders and welcomes their comments at any time. For further information or to make comment please email: **consult@jadestone-energy.com.**

TENDERS

SHIRE OF WYNDHAM EAST KIMBERLEY

Request for Tender T13-22/23: Black Spot Construction Projects 2023

The Shire of Wyndham East Kimberley is seeking tenders to undertake concrete footpath, parking bay and bus bay construction in Wyndham and Kununurra.

Details of the tender package can be obtained on the Shire's website www.swek.wa.gov.au/tenders

Potential respondents will need to register as a supplier with VendorPanel to access the tender documents.

Clarification of tenders details must be in writing and sought via the respondents VendorPanel account, prior to 2:00pm, Monday 3 April 2023.

Tenders must be submitted via the respondents VendorPanel account www.vendorpanel.com.au

The Deadline for Tenders is 2:00pm (WST), Wednesday 12 April 2023.

Tenders submitted by facsimile, email, mail or hand delivery will not be accepted. Late applications will not be accepted.

The lowest, or any tender may not necessarily be accepted.

Any potential applicant canvassing Shire of Wyndham East Kimberley Officers or Elected Members will be disqualified from the tender process.

ADVERTISING INDEMNITY & WARRANTY

WEST AUSTRALIAN REGIONAL NEWSPAPERS

The advertiser (or agent) indemnifies the Company (and its employees and agents) against all actions, proceedings, claims, demands, losses, damages, costs and expenses arising out of or in connection with the publication of the advertisement (including any relating to defamation, malicious falsehood, infringement of copyright, trademark or design, or breach of the Trade Practices Act 1974, the Consumer Credit Code, or the Fair Trading Act 1987) and warrants that publication of the advertisement will not give rise to any legal, equitable or statutory rights against the Company and will not breach any laws or regulations including the prohibitions relating to advertising in the Trade Practices Act 1974, the Consumer Credit Code, and the Fair Trading Act 1987.

All advertisements are accepted on the following terms and conditions:

RIGHT TO REFUSE: The Company has the right to refuse to publish or republish any advertisement without giving any reason.

ENGAGEMENT AND MARRIAGE NOTICES: Must be signed by one of the people concerned or by one parent of the couple.

ADULT SERVICES, PERSONAL NOTICES AND GARAGE SALES: Must be paid at time of lodgement.

CANCELLATIONS AND ALTERATIONS: Same deadlines as insertions.

DISCLAIMER OF LIABILITY: No liability will be incurred by the Company by reason of any amendment to or error or inaccuracy in, or the partial or total omission of, an advertisement (single or multiple insertion) or by reason of any delay or default or from any other cause whatsoever. If an error occurs which in the opinion of the Company clearly lessens the value of the advertisement and which is in no way the fault of the advertiser and the advertiser notifies the Company of the error prior to the advertisement deadline on the first day the error was published, then a refund will be provided on the cost of the advertisement proportionate to the Company's opinion of its reduced value.

ADJUSTMENT AND CLAIMS: The advertiser must notify the Company of any error in the invoice for an advertisement within 30 days from the end of the month in which the advertisement was published. The Company will not consider claims for an invoice error lodged outside this period.

COPYRIGHT: The entire content of this product is protected under copyright law, and as such may not be reproduced in any form without prior permission of the copyright owner.

EMPLOYMENT

Government of **Western Australia**
Department of **Communities**

Residential Care Worker & Senior Residential Care Worker

Level/Salary: Level 2, $67,302 - $72,386/ Level 3, $76,026 - $81,847 pa pro rata + Super - PSCSAA 2022

Location: Kununurra, East Kimberley

Do you want to make a difference? Are you looking for a rewarding job where no day is the same? Do you want to be part of a team that works to help children and young people feel cared for, safe and connected to family and country? If this sounds like you then we have exciting permanent, fixed term and casual opportunities available right now in Kununurra Residential Care! Employees will receive comprehensive training and great benefits, and will be strongly supported by the team in their everyday work.

For More Information: Contact **Brendan Carpenter, Manager Residential Care, 0427 003 578** during business hours.

To Apply:
Visit https://search.jobs.wa.gov.au/ and search **COM9123** or scan the below QR code.

Closing Date: 4:00pm (AWST) Thursday 30 March 2023.

DOC_14113

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Government of **Western Australia**
WA Country Health Service

Position Profile: In this role you liaise with multi-disciplinary staff and stakeholders to accurately identify ineligible, compensable and private patients; to maximise hospital revenue via various revenue enhancement initiatives and to ensure customer satisfaction amongst patients admitted utilising their private health cover. You are also responsible for supporting Section 19(2) Exemption activities and participation in development of relevant revenue capture activities in the region.

Area Profile: The WA Country Health Service (WACHS) is the largest country health system in Australia and one of the biggest in the world, providing health services to approximately half a million people, including 45,000 Aboriginal people, over a vast two and a half million square kilometre area. The organisation comprises seven regions, with a strong network of public hospitals, health services and health centres located across rural and remote Western Australia. Our core business is the provision of quality, accessible health services to country WA residents and visitors.

Employee Benefits: In addition to the great salary our employees enjoy an amazing range of benefits which may include (in line with operational requirements):

- 10.5% employer contributed superannuation into a fund of your choice. For further information click here.
- Access to generous salary packaging arrangements
- Professional Development Opportunities and Study Leave/assistance
- Flexible working arrangements
- Flexible leave arrangements
- Other professional and location based allowances

Selection Criteria: Please see the attached Job Description Form (available online at www.jobs.health.wa.gov.au).

For Further Job Related Information: We encourage you to contact Claire English on 08 9166 4212.

If you experience difficulties while applying online, please contact Employee Services on 13 44 77 for immediate assistance during business hours.

Application Instructions: Applicants are requested to apply online (www.jobs.health.wa.gov.au).

It is preferable for your referee to be a current supervisor or manager.

Applicants are advised to write a covering letter outlining their suitability for this position, and attach their current resume or curriculum vitae. These documents should be complete and ready to attach prior to applying online. Please ensure you allow sufficient time to complete the online application process as you will be required to answer various questions and attach your documentation.

Lodgement is system generated. Any submissions on, or after, 4:00pm will not be accepted.

LATE OR EMAIL APPLICATIONS WILL NOT BE CONSIDERED.

DOH_14153

STORAGE

BULL RUN SELF STORAGE UNITS
Various sizes secu storage. From offic space to big boat Ph: Mick Bowles 0429 916 855

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Community Consultation Sessions – Montara Field

Jadestone Energy

19th – 25th March 2024

Goals of the community consultation sessions

- Identify any relevant persons who may not have been contacted through the usual means (fishery licence holders, tour operators etc)
- Ensure Jadestone have shown reasonable efforts to capture any person who wishes to be consulted
- Talk to anyone in the coastal communities where the EMBA overlaps the coastal waters to capture anyone who could be affected by an unplanned event

Jadestone Energy

Advertising ahead of the sessions

- Newspaper adverts placed in the local news (Broome Advertiser and Kimberley Echo) 14th – 21st March.
- Adverts placed on physical noticeboards in Broome, Wyndham and Derby.
- Social media adverts published 12th -21st March that appeared in Facebook and Instagram feeds for the local areas

Jadestone Energy

Locations sessions held

Session location	Date (time)	Visits [1]	Conversations [2]
Mowanjum	19 March 2024 (1000 to 1200)	6	2
Derby	19 March 2024 (1400 to 1600)	38	10
Broome	20 March 2024 (1400 to 1600)	60	8
Bidyadanga	21 March 2024 (1000 to 1200)	10	6
Beagle Bay	22 March 2024 (1000 to 1200)	10	8
Dijarindjin	22 March 2024 (1400 to 1600)	5	1
Wyndham	24 March 2024 (0900 to 1100)	55	9
Kununarra	25 March 2024 (0900 to 1100)	50	11

Jadestone Energy

Mowanjum

NEWSPAPER ADVERT

- Appeared in the Broome Advertiser from 14/03/2024 – 21/03/2024
- Readership: 14,474



Broome Advertiser Thursday, March 14, 2024 broomenad.com.au NEWS 11

Vital support on path towards heart health

CAIN ANDREWS

Heart Support Australia has expanded its outreach efforts by inaugurating a peer support group in Broome, aimed at expanding crucial post-heart event support to cardiac patients in the region.

Led by Fiona Aamodt, a physiotherapist with more than 20 years experience working with heart disease patients, the group seeks to offer a nurturing environment where individuals can find guidance and solidarity in their journey towards better heart health.

"Working with heart exercise groups I often see the value people get purely from yarning with other people with similar conditions and experiences," Ms Aamodt said.

"This is particularly the case in smaller places like Broome where access to healthcare can be challenging."

The significance of such support programs cannot be overstated with cardiovascular disease rates in Broome nearly double that of major cities, according to statistics from the Australian Institute of Health and Welfare.

HSA chief executive Dr Christian Verdicchio emphasised the organisation's commitment to addressing health disparities by extending support to regional areas such as Broome.

"We are proud to support local communities across Australia to lessen the gap in health outcomes for non-Indigenous and Indigenous Australians as well as the gap between remote Australia and major cities when it comes to heart health," he said.

By providing a platform for individuals to share experiences and guidance from peers who understand their journey, the program aims to reduce the strain on healthcare resources by minimising hospitalisations and GP visits.

The inaugural session of the Broome peer support group is scheduled for Thursday, March 21 at Broome Circle.

Heart Support Australia chief executive Dr Christian Verdicchio. Picture: Facebook

Union support for better pay & conditions

CAIN ANDREWS

Services Australia, the Australian Tax Office and Home Affairs have joined the Community and Public Sector Union and Civil Service Association's call to overhaul pay and conditions for regional public sector workers in a bid to tackle the regional staff retention crisis.

Last week the CPSU/CSA began bargaining for a replacement of the Public Sector Civil Service Association Agreement 2022.

The sought-after changes include receiving annual leave travel concessions as a lump sum, obtaining an inconvenience allowance for overnight stays away from home, and having the flexibility to use travelling allowances for purchasing groceries and pre-prepared meals.

CPSU/CSA branch secretary Rikki Henden said the change would help address the urgent regional attraction and retention crisis.

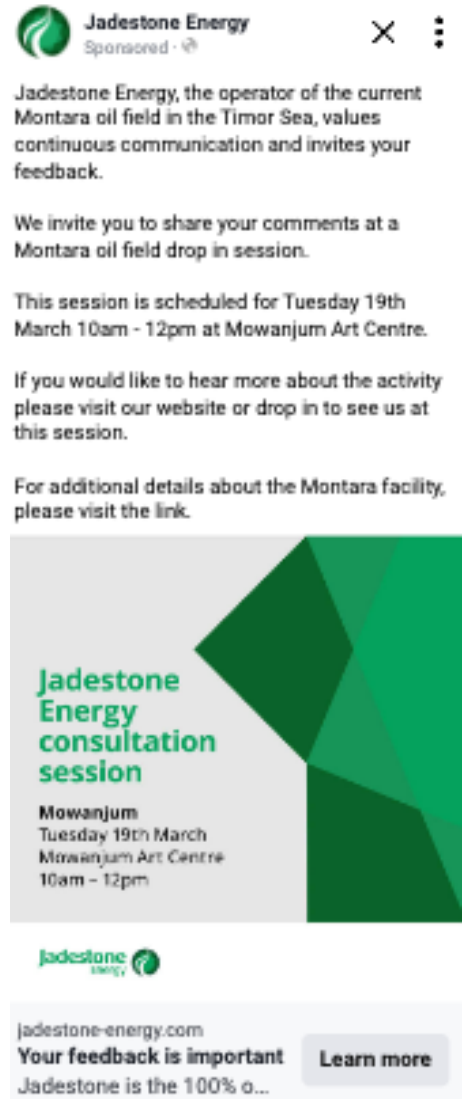
"The Government needs to offer pay and conditions that inspire people to live and work delivering public services in regional WA, and keep them there for the long term," she said.

"Accessible, reliable, locally delivered public services underpin the capacity to live a better life in regional WA, but this is being undermined by persistent difficulties attracting and retaining skilled staff to do the work."

The union will also aim to address issues concerning district allowance and the regional officers housing scheme following extensive consultations with more than 1000 regional public sector workers across regional WA.

SOCIAL ADVERT

- Advertised from 12/03/2024 – 19/03/2024
- Total reach: 544
- Total impressions: 3,312
- Total link clicks: 18



Community information session held on 19 March 2024

Derby

NEWSPAPER ADVERT

- Appeared in the Broome Advertiser from 14/03/2024 – 21/03/2024
- Readership: 14,474



Broome Advertiser Thursday, March 14, 2024 broomenad.com.au NEWS 11

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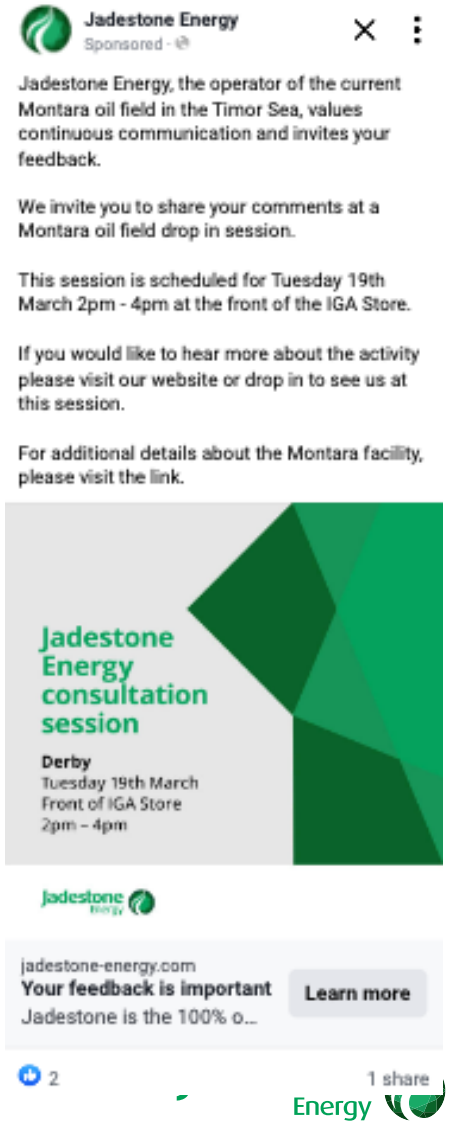
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SOCIAL ADVERT

- Advertised from 12/03/2024 – 19/03/2024
- Total reach: 1,006
- Total impressions: 4,856
- Total link clicks: 29



Community information session held on 19 March 2024

Broome

NEWSPAPER ADVERT

- Appeared in the Broome Advertiser from 14/03/2024 – 21/03/2024
- Readership: 14,474



Broome Advertiser Thursday, March 14, 2024 — broomenad.com.au — NEWS 11

Vital support on path towards heart health

CAIN ANDREWS

Heart Support Australia has expanded its outreach efforts by inaugurating a peer support group in Broome, aimed at expanding crucial post-heart event support to cardiac patients in the region.

Led by Fiona Aamodt, a physiotherapist with more than 20 years experience working with heart disease patients, the group seeks to offer a nurturing environment where individuals can find guidance and solidarity in their journey towards better heart health.

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"This is particularly the case in smaller places like Broome where access to healthcare can be challenging."

The significance of such support programs cannot be overstated with cardiovascular disease rates in Broome nearly double that of major cities, according to statistics from the Australian Institute of Health and Welfare.

HSA chief executive Dr Christian Verdicchio emphasised the organisation's commitment to addressing health disparities by extending support to regional areas such as Broome.

"We are proud to support local communities across Australia to lessen the gap in health outcomes for non-Indigenous and Indigenous Australians as well as the gap between remote Australia and major cities when it comes to heart health," he said.

By providing a platform for individuals to share experiences and guidance from peers who understand their journey, the program aims to reduce the strain on healthcare resources by minimising hospitalisations and GP visits.

The inaugural session of the Broome peer support group is scheduled for Thursday, March 21 at Broome Circle.

Heart Support Australia chief executive Dr Christian Verdicchio. Picture: Facebook

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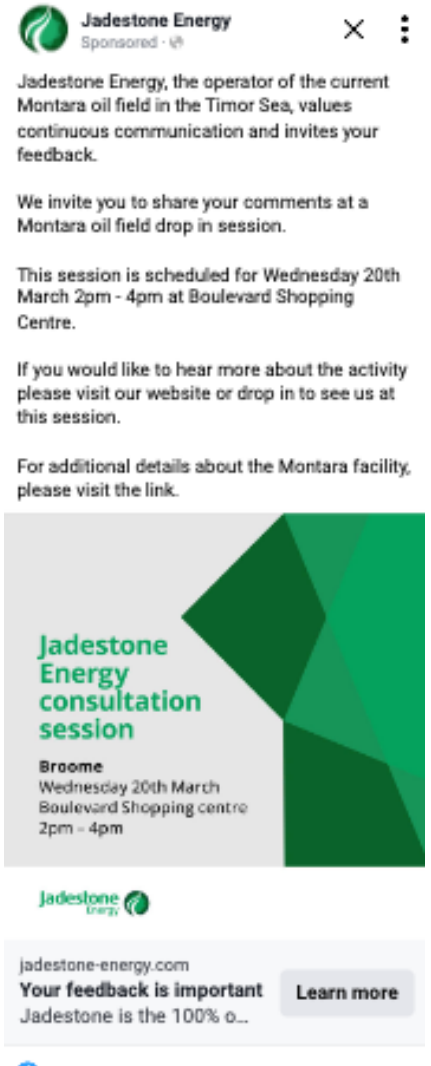
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SOCIAL ADVERT

- Advertised from 12/03/2024 – 20/03/2024
- Total reach: 3,796
- Total impressions: 12,530
- Total link clicks: 82



Community information session held on 20 March 2024

Bidyadanga

NEWSPAPER ADVERT

- Appeared in the Broome Advertiser from 14/03/2024 – 21/03/2024
- Readership: 14,474



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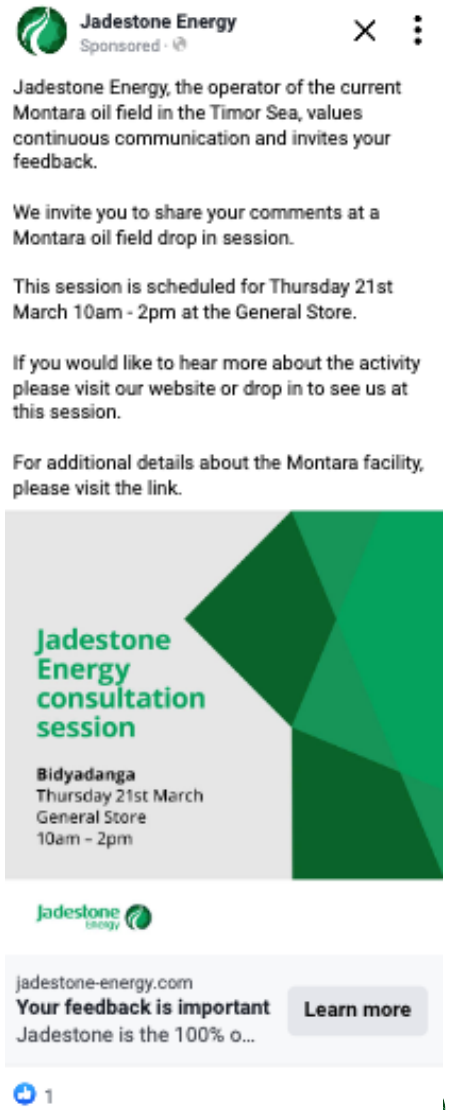
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SOCIAL ADVERT

- Advertised from 12/03/2024 – 21/03/2024
- Total reach: 160
- Total impressions: 2,873
- Total link clicks: 9



Community information session held on 21 March 2024

Beagle Bay

NEWSPAPER ADVERT

- Appeared in the Broome Advertiser from 14/03/2024 – 22/03/2024
- Readership: 14,474



Broome Advertiser Thursday, March 14, 2024 broomenad.com.au NEWS 11

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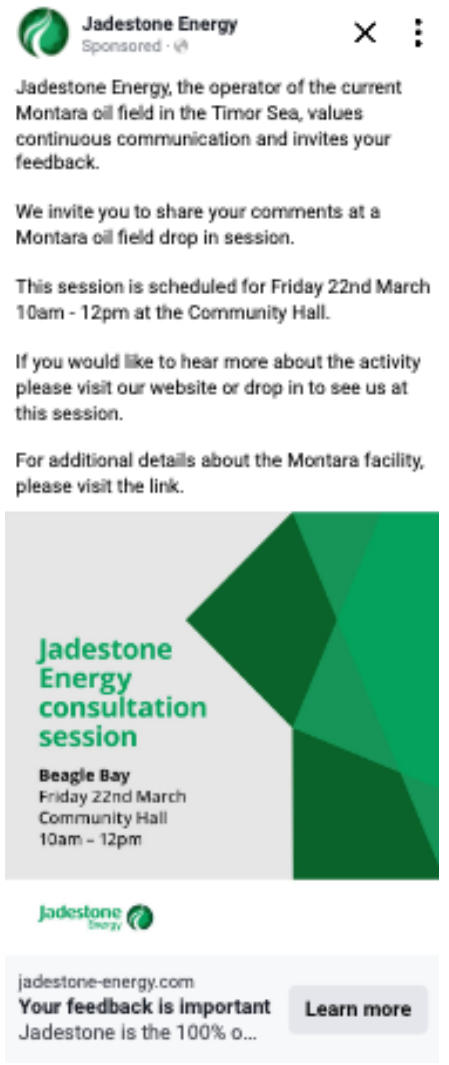
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SOCIAL ADVERT

- Advertised from 12/03/2024 – 22/03/2024
- Total reach: 611
- Total impressions: 3,214
- Total link clicks: 17



Community information session held on 22 March 2024

Jadestone Energy

Djarindjin

NEWSPAPER ADVERT

- Appeared in the Broome Advertiser from 14/03/2024 – 21/03/2024
- Readership: 14,474



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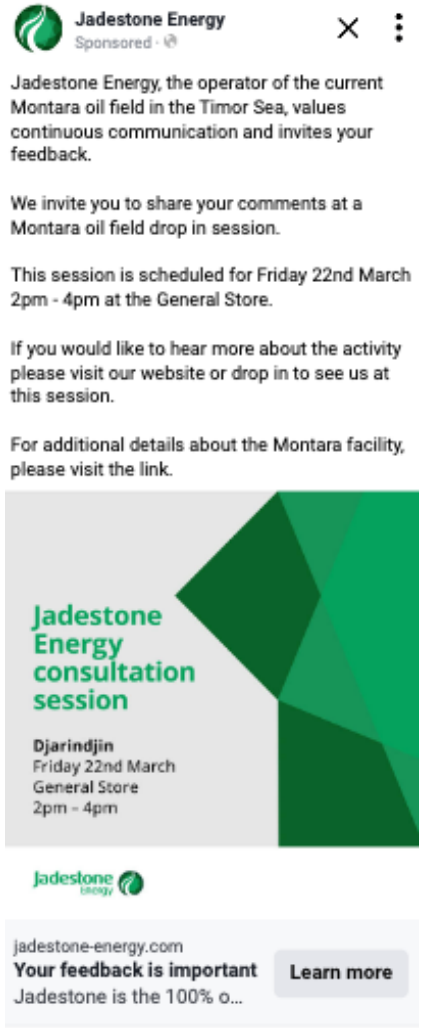
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SOCIAL ADVERT

- Advertised from 12/03/2024 – 22/03/2024
- Total reach: 133
- Total impressions: 1,801
- Total link clicks: 8



Community information session held on 22 March 2024

Wyndham

NEWSPAPER ADVERT

- Appeared in the Kimberley Echo from 14/03/2024 – 21/03/2024
- Readership: 1,600



Thursday, March 14, 2024 — kimberleyecho.com.au — NEWS 7

Seizure of illegal grog draws praise

SARAH CRAWFORD

The Liquor Stores Association of WA hopes the police seizure of a large amount of alcohol heading to mostly dry towns will deter others from dealing in the illegal trade.

Forty-two casks of wine, 11 bottles of spirits, and two blocks of beer and pre-mixed drinks were discovered in three separate seizures in the strictly liquor-restricted community of Fitzroy Crossing on Great Northern Highway on February 4 and 28.

In Broome seven casks of wine, seven bottles of wine and a one-litre bottle of bourbon were seized from a liquor-restricted premises on February 19, believed to be bound for the mostly dry town of Halls Creek.

Halls Creek and Fitzroy Crossing have some of the strictest liquor restrictions in the State, with full-strength takeaway alcohol banned.

Selling black market alcohol in these towns can be highly lucrative.

LSA chief executive Peter Peck said it was encouraging authorities were cracking down on the illegal traders of alcohol.

"I have to commend and congratulate the officers from the Kimberley for their work," he said.

"It's the kind of action the industry needs to see and be assured that police on the ground are doing everything in their power to stop sly grogging.

"I hope these seizures serve as a deterrent to those who think they can profit off alcohol-related harm, because this demonstrates that you can't, and that the law clearly catches up with everyone."

So far, four people have been charged over the offences, and police say the investigations are continuing.

Booze seized by police. Picture: WA Police

Residential aged care prices set to soar for wealthiest Australians

KATINA CURTIS

Wealthy older Australians could be asked to pay $5400 a year more for residential aged care and to contribute more for services used in home care under a funding revamp intended to make the growing costs more manageable.

But the Federal Government has ruled out any new Medicare levy-style tax on all Australians to cover the costs. Demand is expected to grow enormously, with the population aged over 80 expected to triple over the next 40 years.

An expert taskforce led by Aged Care Minister Anika Wells spent six months examining funding arrangements and handed its recommendations to the Government at the end of December.

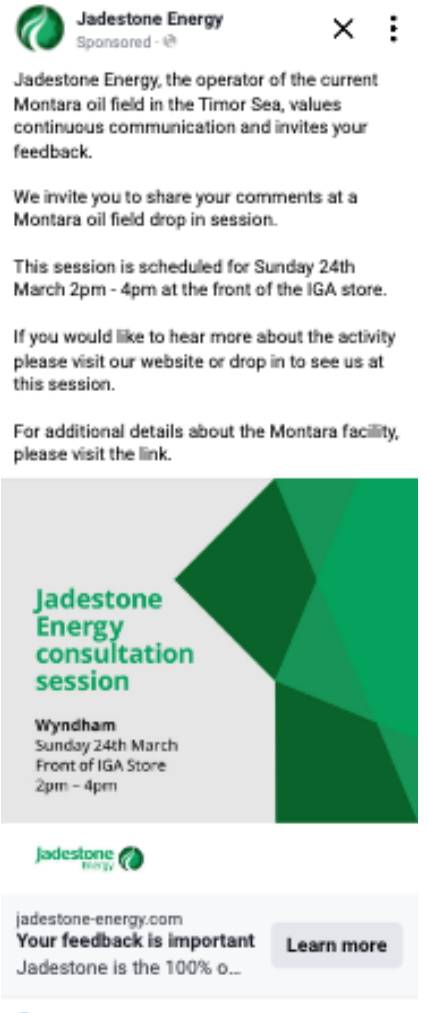
However, the Government is still considering how to act on them and may not have a response ready the May Budget.

Nevertheless, Ms Wells said it was clear that work must start now. "Australia's aged care system is under stress. There is universal acceptance that something must change in order to ensure all Australians can age with the dignity, safety and high-quality care they deserve," she said.

The report identifies four key problems: increased demand, high care expectations, need for extra funding and demographic changes.

SOCIAL ADVERT

- Advertised from 12/03/2024 – 24/03/2024
- Total reach: 541
- Total impressions: 4,511
- Total link clicks: 39



Jadestone Energy
Sponsored ·

Jadestone Energy, the operator of the current Montara oil field in the Timor Sea, values continuous communication and invites your feedback.

We invite you to share your comments at a Montara oil field drop in session.

This session is scheduled for Sunday 24th March 2pm - 4pm at the front of the IGA store.

If you would like to hear more about the activity please visit our website or drop in to see us at this session.

For additional details about the Montara facility, please visit the link.

jadestone-energy.com
Your feedback is important
Jadestone is the 100% o...
Learn more

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Community information session held on 24 March 2024

Jadestone Energy

Kununurra

NEWSPAPER ADVERT

- Appeared in the Kimberley Echo from 14/03/2024 – 21/03/2024
- Readership: 1,600



Thursday, March 14, 2024 — kimberleyecho.com.au — NEWS 7

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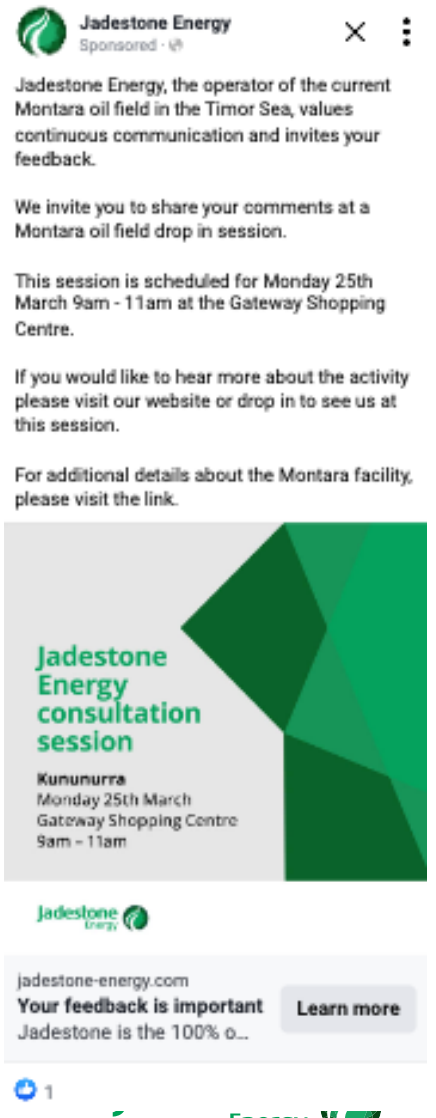
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SOCIAL ADVERT

- Advertised from 12/03/2024 – 25/03/2024
- Ad was paused on 18/03/2024 and recommenced on 24/03/2024 due to issues with venue
- Total reach: 2,160
- Total impressions: 7,517
- Total link clicks: 56



Jadestone Energy
Sponsored ·

Jadestone Energy, the operator of the current Montara oil field in the Timor Sea, values continuous communication and invites your feedback.

We invite you to share your comments at a Montara oil field drop in session.

This session is scheduled for Monday 25th March 9am - 11am at the Gateway Shopping Centre.

If you would like to hear more about the activity please visit our website or drop in to see us at this session.

For additional details about the Montara facility, please visit the link.

jadestone-energy.com
Your feedback is important
Jadestone is the 100% o...
Learn more

1

Community information session held on 25 March 2024

Energy

Overall

SOCIAL STATISTICS

Location	Reach	Impressions	Clicks	Visits [1]	Conversations [2]
Mowanjum	544	3,312	18	6	2
Derby	1,006	4,856	29	38	10
Broome	3,796	12,530	82	60	8
Bidyadanga	160	2,873	9	10	6
Beagle Bay	611	3,214	17	10	8
Djarindjin	133	1,801	8	5	1
Wyndham	541	4,511	39	55	9
Kununurra	2,160	7,517	56	50	11
Kalumburu*	185	1,680	15	n/a	n/a
TOTAL	**9,136**	**42,294**	**273**	**234**	**55**

QR Scans

11 Mar – 2 April: **79**

*Kalumburu social ads were cancelled in line with visit not proceeding

[1] This refers to the number of people that walked immediately past the information sessions location and either engaged in a conversations or choose to walk past.
[2] This refers to the number of people that engaged in conversations.

Jadestone Energy

Conversation Topics

- The topics of conversation related how the environment would be protected in the event of a spill
- Protection of the natural environment, in particular food sources such as fish, dugong, and turtle habitats
- Receiving timely notification of spill events when such events are predicted to move towards the communities
- Both Bidyadanga and Wyndham noted ranger groups may be interested in the activity and should be consulted in the event of a spill
- Beagle Bay specifically referenced the Lacepede Islands as an area to be protected as it is considered an area of significance to the community, largely due to Green Sea Turtle and Dugong presence. No other sites of significance were identified

Jadestone Energy

Follow-Ups

- In total, five attendees provided their contact details for follow-up information.
- Two requested information regarding employment opportunities
- Three requested the general information pack and have been added to the relevant persons list for ongoing consultation

Jadestone Energy

Jadestone Energy invites you to provide your feedback on the Montara field in the Timor Sea.

Drop in sessions will be held in:

Mowanjum
Tuesday 19th March, 10am - 12pm
Mowanjum Art Centre

Derby
Tuesday 19th March, 2pm - 4pm
Front of IGA Store

Broome
Wednesday 20th March, 2pm - 4pm
Boulevard Shopping Centre

Bidyadanga
Thursday 21st March, 10am - 2pm
General Store

Beagle Bay
Friday 22nd March 10am - 12pm
Community Hall

Djarindjin
Friday 22nd March, 2pm - 4pm
General Store

Jadestone Energy

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Jadestone Energy invites you to provide your feedback on the Montara field in the Timor Sea.

Drop in sessions will be held in:

Kalumburu
Sunday 24th March, 10am — 12pm
Kalumburu Resource Centre

Wyndham
Sunday 24th March, 2pm — 4pm
Front of IGA Store

Kununurra
Monday 25th March, 9am — 11am
Gateway Shopping Centre

Jadestone Energy

If you would like to hear more about the activity please visit our website, or drop in to see us as the session.

Appendix C2

JADESTONE ENERGY

Invitation for Consultation
Montara Field Wellhead Abandonment and Monitoring

Invitation for Consultation

Jadestone Energy (Jadestone) is the operator of the existing Montara Field in the Timor Sea. Jadestone is preparing for assessment by the National Offshore Petroleum Regulatory Authority (NOPSEMA) two Environment Plans for the

- ***activity associated with monitoring of 2 wellheads (Sea Eagle-1 and Tahbilk-1); and***
- ***the permanent abandonment of 4 wellheads (Montara-1, Montara-2, Montara-3 and Skua-1) proposed to be left in-situ.***

We invite you to provide comment for consideration in this process.

Jadestone Energy (Jadestone) is an Asia Pacific based oil and gas exploration and production company listed on the AIM market of the London Stock Exchange (JSE).



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. There will be two EPs covering:

- The Sea Eagle-1 and Tahbilk-1 vessel-based activity EP will describe the proposed ongoing monitoring of the wellheads by annual surveys and the installation of a remote monitoring system.
- The Montara and Skua-1 Wellhead abandonment EP will describe the potential impacts of leaving the four wellheads in situ, no further activity is required as the wells are confirmed to be plugged and abandoned as per the NOPSEMA accepted Wellhead Operations and Management Plan (WOMP).

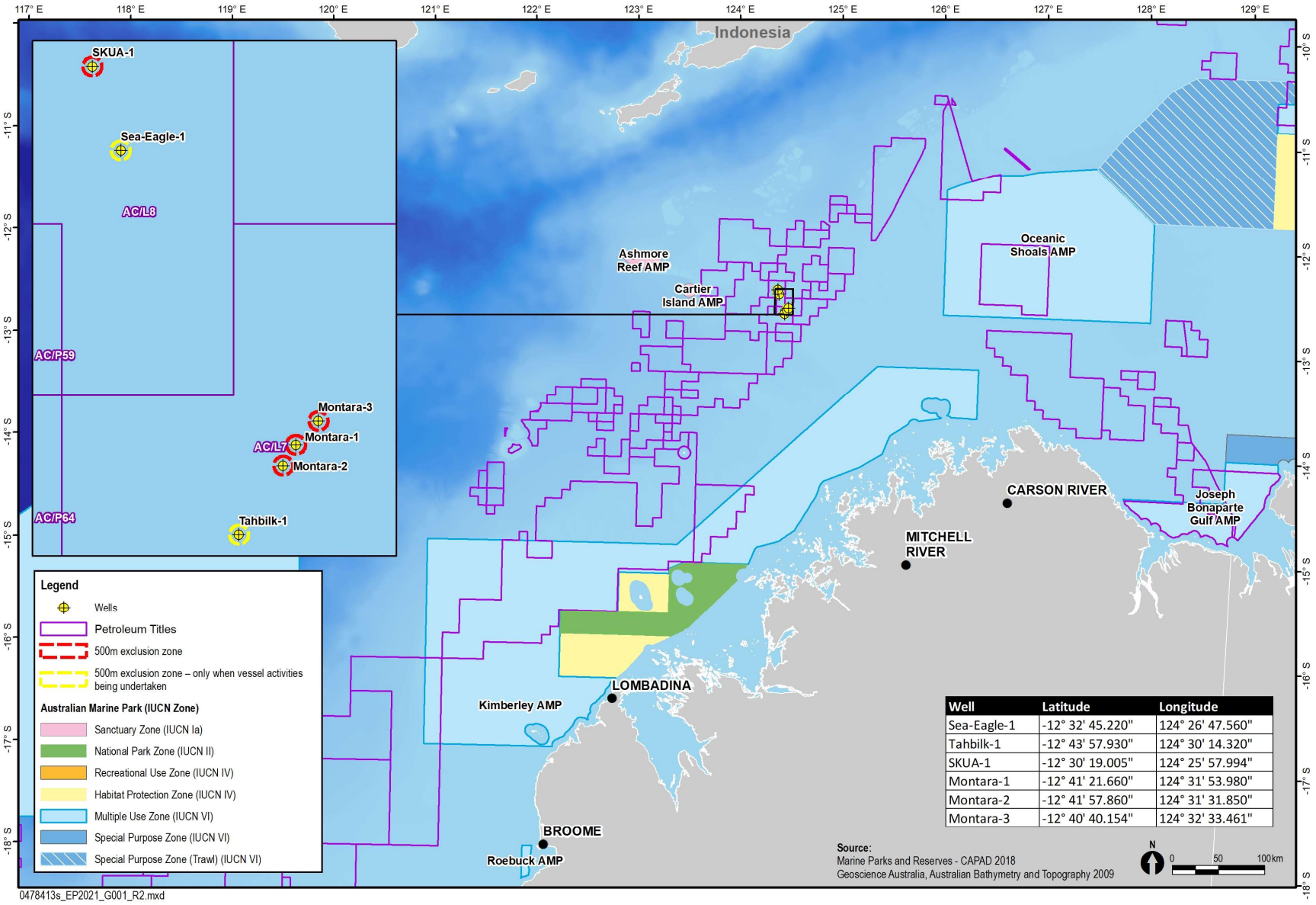
Location

The Montara development is located in the Timor Sea, approximately 690 km west of Darwin (Figure 1). The permit areas AC/L7 (Montara wells and Tahbilk-1) and AC/L8 (Skua-1 and Sea Eagle-1) are in Australian waters. All operational activities managed under the EP 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	131.9km
Cartier AMP	89.5km
Kimberley AMP	108.3km

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 to be responded to as protection priorities. There is no risk of a loss of hydrocarbons from the Montara or Skua-1 wellheads.



Well	Latitude	Longitude
Sea-Eagle-1	-12° 32' 45.220"	124° 26' 47.560"
Tahbilk-1	-12° 43' 57.930"	124° 30' 14.320"
SKUA-1	-12° 30' 19.005"	124° 25' 57.994"
Montara-1	-12° 41' 21.660"	124° 31' 53.980"
Montara-2	-12° 41' 57.860"	124° 31' 31.850"
Montara-3	-12° 40' 40.154"	124° 32' 33.461"

Figure 1 – Location map

Sea Eagle-1 (AC/L8) was drilled and subsequently suspended with cement plugs in 2008, and Tahbilk-1 (AC/L7) in 1990. The wellheads sit between 3.1 and 4.3m above the seafloor. Both exploration wells were shut in and suspended with no gauges or pressure monitoring, therefore annual ROV surveillance has been used to visually check for any indications of mechanical damage (or change), or emission of fluids or gas that would indicate a barrier has failed. No indications have been noted. Jadestone proposes to continue surface vessel inspection surveys until a remote monitoring system is installed which will then require ongoing data retrieval, monitoring and maintenance. These monitoring activities are vessel-based and will involve:

Activity	Duration	Timing
Surface vessel inspection on location, no intervention at wellhead	<0.5 days	Frequently (up to every 2 weeks)
ROV survey visual inspection	1 day	Annually
Monitoring system installation	21 days for 24hr/day	2023
Ongoing data retrieval via vessel	<1 day	Frequently (up to every 2 weeks)
Ongoing monitoring and maintenance	<1 week per well	Annually (possible ROV[1])

These activities are proposed to monitor for any hydrocarbons whilst the future of these wells is determined.

The Sea Eagle-1 and Tahbilk-1 EP will be valid for up to five years to allow for the annual monitoring, installation of the remote monitoring system, and ongoing monitoring and maintenance.

Risks and Impacts

Risks from this activity are those associated with vessel movements on the surface. As the wellheads have not been permanently abandoned, the EP will also consider the risk of loss of well control.

Unplanned risks	
Vessel collision	During vessel-based activity in the field (e.g. monitoring system installation and data retrieval), a 500 m petroleum safety zone will be implemented around the vessel(s) and communicated via Notice to Mariners. No fishing vessels are to enter this zone.
Hydrocarbon spill	• Oil Pollution Emergency Plan • Appropriate vessel spill response plans, equipment and materials will be in place and maintained • Appropriate refuelling procedures and equipment will be used to prevent spills to the marine environment
Introduced Marine Species (IMS)	• IMS Management will meet legal requirements and reduce risks to ALARP and Acceptable levels.

[1] ROV – remotely operated vehicle

Abandonment Environment Plan

The drilling of Montara-1 (AC/L7), Montara-2 (AC/L7), Montara-3 (AL/L7) occurred between 1988 and 2002. These wells have been formally abandoned, with both the primary and secondary barriers verified as per the NOPSEMA accepted well operations management plan (WOMP) (accepted 22/06/21). Skua-1 (AC/L8) was drilled and abandoned in 1974. The abandonment was approved by the regulator at the time, with no WOMP required. No further activities are proposed on these wellheads, with the wellheads remaining in-situ indefinitely at 4.4 m, 4.1 m, 2.8 m and 1.08 m, respectively, from the seafloor.

Jadestone is seeking permanent abandonment of the four wellheads in situ. Once the EP has been accepted, it will be closed out and no further activities will occur under this EP.

Risks and Impacts

Interference with fishing equipment due to the infrastructure left on the seafloor has been identified as the key risk. There is no risk of damage to the wellhead due to any interaction. Jadestone understands from the Department of Primary Industry and Resources that the **Northern Demersal Scalefish** is the only state managed fishery active since 2016 in the two 10 nautical mile grids where the wellheads are located. Other fisheries that are licensed to operate and were assessed as having a potential to utilise this area in the future (based on catch history over the last 5 years) include:

- Western Tuna and Billfish (Commonwealth)
- North West Slope Trawl Fishery (Commonwealth)
- Mackerel Fishery (Western Australia)

Unplanned risks	
Interference with fishing equipment and/or snagging	There is currently no Petroleum Safety Zones or exclusion zones around any of the wellheads listed, and the wellheads are marked on nautical charts and will continue to be in the future. A cautionary zone of 2.5 nautical mile radius is maintained around subsea structures including the wellheads. 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.

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 20 September 2021.

Email: consult@jadestone-energy.com
Phone: 08 9486 6600

L8, 1 William Street, Perth, Western Australia, 6000

In September 2021 we are moving to:
The Atrium, Level 2, 168 St Georges Terrace, Perth WA 6000

JADESTONE ENERGY

Invitation for Consultation
Montara Field Wellhead Abandonment and Monitoring

Fishing sector

Invitation for Consultation

Jadestone Energy (Jadestone) is the operator of the existing Montara Field in the Timor Sea. Jadestone is preparing for assessment by the National Offshore Petroleum Regulatory Authority (NOPSEMA) two Environment Plans for the

- ***activity associated with monitoring of 2 wellheads (Sea Eagle-1 and Tahbilk-1); and,***
- ***the permanent abandonment of 4 wellheads (Montara-1, Montara-2, Montara-3 and Skua-1) proposed to be left in-situ.***

We invite you to provide comment for consideration in this process.

Jadestone Energy (Jadestone) is an Asia Pacific based oil and gas exploration and production company listed on the AIM market of the London Stock Exchange (JSE).



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. There will be two EPs covering:

- The Sea Eagle and Tahbilk vessel based activity EP will describe the proposed ongoing monitoring of the wellheads by annual surveys and the installation of a remote monitoring system.
- The Montara and Skua Wellhead abandonment EP will describe the potential impacts of leaving four wellheads in situ, no further activity is required as the wells are confirmed to be plugged and abandoned as per the NOPSEMA accepted WOMP.

Location

The Montara development is located in the Timor Sea, approximately 690 km west of Darwin (Figure 1). The permit areas AC/L7 (Montara wells and Tahbilk-1) and AC/L8 (Sea Eagle-1 and Skua-1) are in Australian waters.

All operational activities managed under the EP are in ~72-90 m water depth. Location details are shown on Figure 1.

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. There is no risk of a loss of hydrocarbons from the Montara or Skua wellheads.

"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."

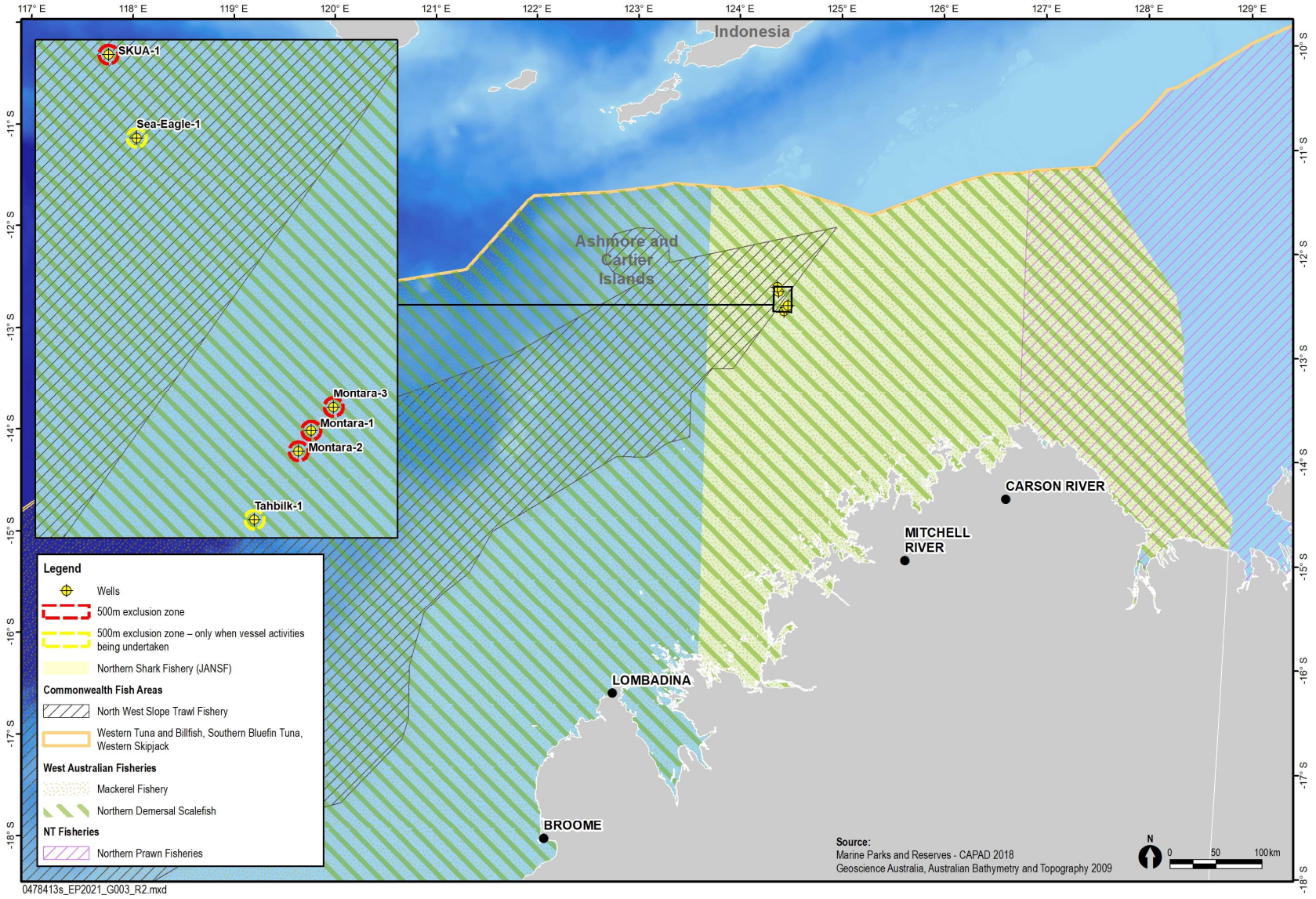


Figure 1 – Location and fisheries that may utilise the Operations Area

What fisheries may be affected?

As Figure 1 indicates, there are a number of fisheries permitted to operate in the operations area. However, Jadestone understands from the Department of Primary Industry and Resources that the **Northern Demersal Scalefish** is the only state managed fishery active since 2016 in the two 10 nM grids where the wellheads are located. Other fisheries that are licensed to operate and were assessed as having a potential to utilise this area in the future (based on catch history over the last 5 years) include:

- **Western Tuna and Billfish (Commonwealth)**
- **North West Slope Trawl Fishery (Commonwealth)**
- **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.

Vessel Based Activity Environment Plan

Sea Eagle-1 (AC/L8) was drilled and subsequently suspended with cement plugs in 2008, and Tahbilk-1 (AC/L7) in 1990. The wellheads sit between 3.1-4.3m from the seafloor. Both exploration wells were shut in and suspended with no gauges or pressure monitoring, therefore annual ROV surveillance has been used to visually check for any indications of mechanical damage (or change), or emission of fluids or gas that would indicate a barrier has failed. No indications have been noted. Jadestone proposes to continue surface vessel inspections surveys until a remote monitoring system is installed which will then require ongoing data retrieval, monitoring and maintenance. These monitoring activities are vessel-based and will involve:

Activity	Duration	Timing
Surface vessel inspection on location, no intervention at wellhead	<0.5 days	Frequently (up to every 2 weeks) until RMS installed
ROV survey visual inspection	1 day	Annually
Monitoring system installation	21 days for 24hr/day	2023
Ongoing Data retrieval via vessel	<1 day	Frequently (up to every 2 weeks)
Ongoing monitoring and maintenance	<1 week per well	Annually (possible ROV[1])

These activities are proposed to monitor for any hydrocarbons whilst the future of these wells is determined. The Sea Eagle-1 and Tahbilk-1 EP will be valid for up to five years to allow for the annual monitoring, RMS installation and ongoing monitoring and maintenance.



[1] ROV – remotely operated vehicle

Risks and Impacts to Fishers

Risks from this activity are those associated with vessel movements on the surface. As the wellheads have not been permanently abandoned, the EP will also consider the risk of loss of well control.

Unplanned risks	
Vessel collision	During vessel-based activity in the field (e.g. monitoring system installation and data retrieval), a 500 m PSZ will be implemented around the vessel(s) and communicated via Notice to Mariners. No fishing vessels are to enter this zone.
Hydrocarbon spill	• Oil Pollution Emergency Plan • Appropriate vessel spill response plans, equipment and materials will be in place and maintained • Appropriate refuelling procedures and equipment will be used to prevent spills to the marine environment
Introduced Marine Species (IMS)	• IMS Management will meet legal requirements and reduce risks to ALARP and Acceptable levels.

Abandonment Environment Plan

The drilling of Montara-1 (AC/L7), Montara-2 (AC/L7), Montara-3 (AL/L7) occurred between 1988 and 2002. These wells have been formally abandoned, with both the primary and secondary barriers verified as per the NOPSEMA accepted WOMP (accepted 22/06/21). Skua-1 (AC/L8) was drilled and abandoned in 1974. The abandonment was approved by the regulator at the time, with no WOMP required. No further activities are proposed on these wellheads with the wellheads remaining in-situ indefinitely at 4.4 m, 4.1m, 2.8m and 1.08m respectively from the seafloor.

Jadestone is seeking permanent abandonment of the four wellheads in situ and therefore once the EP is accepted, it will be closed out and no further activities required under the EP.

Risks and Impacts to Fishers

Interference with fishing equipment due to the infrastructure left on the seafloor has been identified as the key risk to fishing operations. There is no risk of damage to the wellhead due to any interaction.

Unplanned risks	
Interference with fishing equipment and/or snagging	There is currently no Petroleum Safety Zones (PSZ) or exclusion zones around any of the wellheads, however the wellheads are marked on nautical charts and will continue to be going forward. A cautionary zone of 2.5 NM radius is maintained around subsea structures including the wellheads. 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.

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 20 September 2021.

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L8, 1 William Street, Perth, Western Australia, 6000

In September 2021 we are moving to:
The Atrium, Level 2, 168 St Georges Terrace, Perth WA 6000

Sea Eagle-1 and Tahbilk-1 Vessel Based Activity Environment Plan

TM-50-PLN-I-00004

Rev 3

APPENDIX D - PMST OPERATIONAL AREA

Australian Government

Department of Climate Change, Energy, the Environment and Water

EPBC Act Protected Matters Report

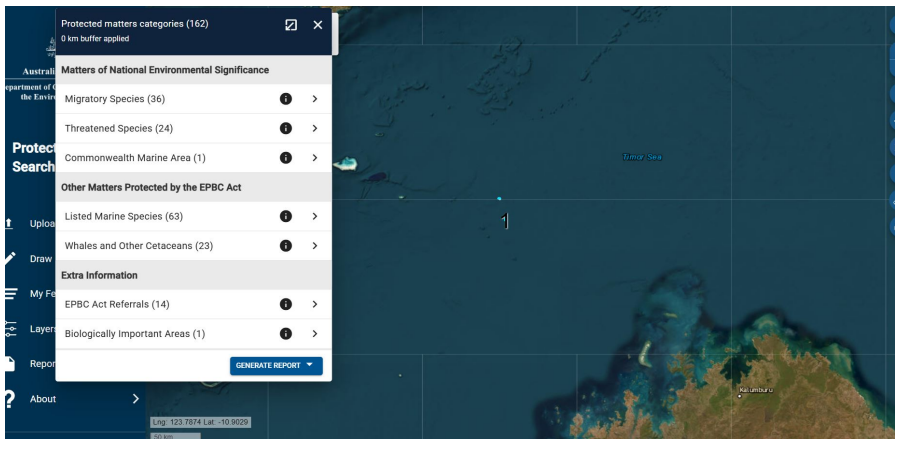
This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

OPERATIONAL AREAS SEA EAGLE AND TAHBILK

Report created: 30-Apr-2025

[Summary](#)
[Details](#)
- [Matters of NES](#)
- [Other Matters Protected by the EPBC Act](#)
- [Extra Information](#)

[Caveat](#)
[Acknowledgements](#)



Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	1
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	24
Listed Migratory Species:	36

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	63
Whales and Other Cetaceans:	23
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	14
Key Ecological Features (Marine):	None
Biologically Important Areas:	1
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Commonwealth Marine Area [Resource Information]

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

Feature Name
Commonwealth Marine Areas (EPBC Act)

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 acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus		
Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Papasula abbotti		
Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Phaethon rubricauda westralis		
Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat likely to occur within area
MAMMAL		
Balaenoptera borealis		
Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera musculus		
Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus		
Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
REPTILE		
Aipysurus foliosquama		
Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Aipysurus fuscus		
Dusky Sea Snake [1119]	Endangered	Species or species habitat may occur within area
Caretta caretta		
Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Chelonia mydas		
Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea		
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
Lepidochelys olivacea		
Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
SHARK		
Carcharodon carcharias		
White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Glyphis garricki		
Northern River Shark, New Guinea River Shark [82454]	Endangered	Species or species habitat may occur within area
Pristis pristis		
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron		
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus		
Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini		
Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area

Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Anous stolidus		
Common Noddy [825]		Species or species habitat may occur within area
Calonectris leucomelas		
Streaked Shearwater [1077]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat likely to occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat may occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area
Carcharias taurus Grey Nurse Shark [64469]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat likely to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Anous stolidus		
Common Noddy [825]		Species or species habitat may occur within area
Anous tenuirostris melanops		
Australian Lesser Noddy [26000]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus		
Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area overfly marine area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat may occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
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
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat likely to occur within area
Fish		
Bhanotia fasciolata Corrugated Pipefish, Barbed Pipefish [66188]		Species or species habitat may occur within area
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area
Cosmocampus banneri Roughridge Pipefish [66206]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[Syngnathoides biaculeatus](#) Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
[Trachyrhamphus bicoarctatus](#) Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
[Trachyrhamphus longirostris](#) Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Reptile		
[Aipysurus duboisii](#) Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
[Aipysurus foliosquama](#) Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
[Aipysurus fuscus](#) Dusky Sea Snake [1119]	Endangered	Species or species habitat may occur within area
[Aipysurus laevis](#) Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely to occur within area
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
Emydocephalus annulatus Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Hydrophis coggeri Cogger's Sea Snake, Black-headed Sea Snake [25925]		Species or species habitat may occur within area
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area
Hydrophis zweifeli as Enhydrina schistosa Australian Beaked Sea Snake [93514]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat likely to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
Steno bredanensis Rough-toothed Dolphin [30]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat may occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Montara 4, 5, and 6 Oil Production Wells, and Montara 3 Gas Re-Injection Well	2002/755	Controlled Action	Post-Approval
PTTEP AA Floating LNG Facility	2011/6025	Controlled Action	Completed
Not controlled action			
Montara-3 Offshore Hydrocarbon Exploration Well Permit Area AC/RL3	2001/489	Not Controlled Action	Completed
Not controlled action (particular manner)			
2 (3D) Marine Seismic Surveys	2009/4994	Not Controlled Action (Particular Manner)	Completed
2D Marine Seismic Survey	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Marine Survey	2001/363	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
2D Seismic survey	2009/5076	Not Controlled Action (Particular Manner)	Post-Approval
Cartier East and Cartier West 3D Marine Seismic Surveys	2009/5230	Not Controlled Action (Particular Manner)	Post-Approval
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Tow West Atlas wreck from present location to boundary of EEZ	2010/5652	Not Controlled Action (Particular Manner)	Post-Approval
Vampire 2D Non Exclusive Seismic Survey, WA	2010/5543	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Zeppelin 3D Seismic Survey	2011/6148	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
2D Marine Seismic Survey	2008/4623	Referral Decision	Completed

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

Please feel free to provide feedback via the Contact us page.

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Sea Eagle-1 and Tahbilk-1 Vessel Based Activity Environment Plan

TM-50-PLN-I-00004

Rev 3

APPENDIX E - PMST RISK EMBA

Socio-Economic (Low Exposure Threshold) and

Ecological (Moderate Exposure Threshold)

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.

SOCIO-CULTURAL EMBA

Report created: 14-Aug-2025

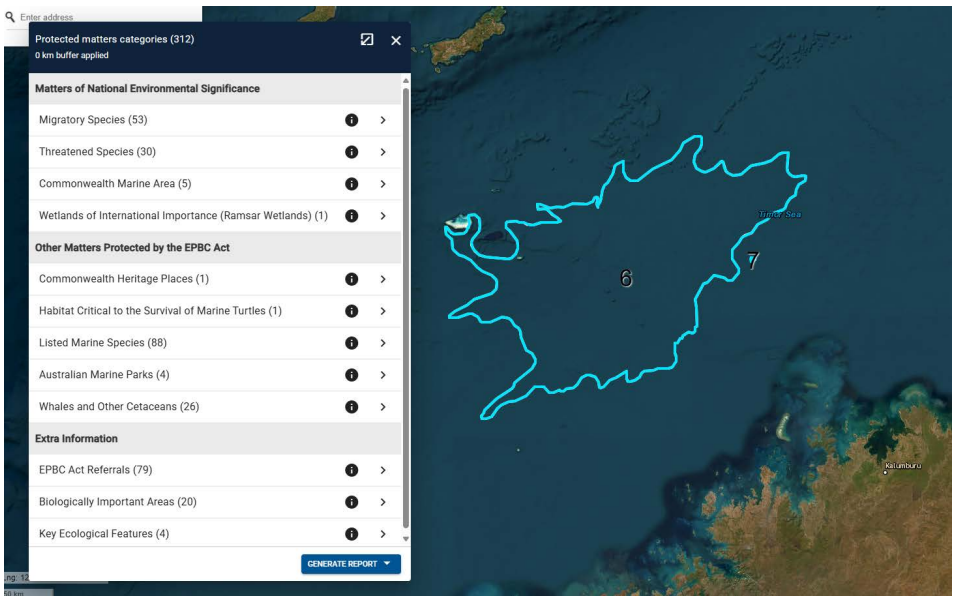
[Summary](#)

[Details](#)

- [Matters of NES](#)
- [Other Matters Protected by the EPBC Act](#)
- [Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	5
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	30
Listed Migratory Species:	53

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	1
Listed Marine Species:	88
Whales and Other Cetaceans:	26
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	4
Habitat Critical to the Survival of Marine Turtles:	1

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	79
Key Ecological Features (Marine):	4
Biologically Important Areas:	20
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

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

Ramsar Site Name	Proximity
Ashmore reef national nature reserve	Within Ramsar site

Commonwealth Marine Area [Resource Information]

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

Feature Name
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)

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 known to occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area
Calidris canutus		
Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Endangered	Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Phaethon rubricauda westralis Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Breeding known to occur within area
Sternula albifrons Little Tern [82849]	Vulnerable	Congregation or aggregation known to occur within area
MAMMAL		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area

Scientific Name	Threatened Category	Presence Text
Balaenoptera physalus		
Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
REPTILE		
Aipysurus apraefrontalis		
Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
Aipysurus foliosquama		
Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Aipysurus fuscus		
Dusky Sea Snake [1119]	Endangered	Species or species habitat known to occur within area
Caretta caretta		
Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas		
Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea		
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Lepidochelys olivacea		
Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
SHARK		

Scientific Name	Threatened Category	Presence Text
Carcharodon carcharias		
White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Glyphis garricki		
Northern River Shark, New Guinea River Shark [82454]	Endangered	Species or species habitat may occur within area
Pristis pristis		
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron		
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus		
Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini		
Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area

Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
null		
Balaenoptera omurai		
Omura's Whale [87136]		Species or species habitat likely to occur within area

Migratory Marine Birds	
Anous stolidus	
Common Noddy [825]	Foraging, feeding or related behaviour known to occur within area
Calonectris leucomelas	
Streaked Shearwater [1077]	Species or species habitat known to occur within area
Fregata ariel	
Lesser Frigatebird, Least Frigatebird [1012]	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding known to occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Sterna dougallii Roseate Tern [817]		Breeding likely to occur within area
Sternula albifrons Little Tern [82849]	Vulnerable	Congregation or aggregation known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Sula sula Red-footed Booby [1023]		Breeding known to occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat may occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area
Carcharias taurus Grey Nurse Shark [64469]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Dugong dugon Dugong [28]		Foraging, feeding or related behaviour known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Tursiops aduncus (Arafura/Timor Sea populations)		
Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area
Migratory Terrestrial Species		
Cecropis daurica		
Red-rumped Swallow [80610]		Species or species habitat may occur within area
Hirundo rustica		
Barn Swallow [662]		Species or species habitat likely to occur within area
Motacilla cinerea		
Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava		
Yellow Wagtail [644]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Acrocephalus orientalis		
Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area
Calidris canutus		
Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Heritage Places		[Resource Information]
Name	State	Status
Natural		
Ashmore Reef National Nature Reserve	EXT	Listed place

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area overfly marine area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous stolidus Common Noddy [825]		Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Cecropis daurica as Hirundo daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area overfly marine area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Hirundo rustica Barn Swallow [662]		Species or species habitat likely to occur within area overfly marine area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat may occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area overfly marine area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding known to occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Sterna dougallii Roseate Tern [817]		Breeding likely to occur within area
Sternula albifrons as Sterna albifrons Little Tern [82849]	Vulnerable	Congregation or aggregation known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Sula sula Red-footed Booby [1023]		Breeding known to occur within area
Thalasseus bengalensis as Sterna bengalensis Lesser Crested Tern [66546]		Breeding known to occur within area
Fish		
Bhanotia fasciolata Corrugated Pipefish, Barbed Pipefish [66188]		Species or species habitat may occur within area
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area
Cosmocampus banneri Roughridge Pipefish [66206]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[Trachyrhamphus bicoarctatus](#) Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
[Trachyrhamphus longirostris](#) Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammal		
[Dugong dugon](#) Dugong [28]		Foraging, feeding or related behaviour known to occur within area
Reptile		
[Aipysurus apraefrontalis](#) Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
[Aipysurus duboisii](#) Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
[Aipysurus foliosquama](#) Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
[Aipysurus fuscus](#) Dusky Sea Snake [1119]	Endangered	Species or species habitat known to occur within area
[Aipysurus laevis](#) Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
[Aipysurus mosaicus as Aipysurus eydouxii](#) Mosaic Sea Snake [87261]		Species or species habitat may occur within area
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Emydocephalus annulatus Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Sea Snake, Banded Sea Snake [1101]		Species or species habitat may occur within area
Hydrophis coggeri Cogger's Sea Snake, Black-headed Sea Snake [25925]		Species or species habitat may occur within area
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]		Species or species habitat may occur within area
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hydrophis macdowelli as Hydrophis mcdowelli		
MacDowell's Sea Snake, Small-headed Sea Snake, [75601]		Species or species habitat may occur within area
Hydrophis major as Disteira major		
Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
Hydrophis ornatus		
Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area
Hydrophis peronii as Acalyptophis peronii		
Horned Sea Snake [93509]		Species or species habitat may occur within area
Hydrophis platura as Pelamis platurus		
Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area
Hydrophis stokesii as Astrotia stokesii		
Stokes' Sea Snake [93510]		Species or species habitat may occur within area
Hydrophis zweifeli as Enhydrina schistosa		
Australian Beaked Sea Snake [93514]		Species or species habitat may occur within area
Lepidochelys olivacea		
Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera borealis		
Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera omurai Omura's Whale [87136]		Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
Lagenodelphis hosei Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
Steno bredanensis Rough-toothed Dolphin [30]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence
Tursiops aduncus (Arafura/Timor Sea populations)		
Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area
Tursiops truncatus s. str.		
Bottlenose Dolphin [68417]		Species or species habitat may occur within area
Ziphius cavirostris		
Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Australian Marine Parks	[Resource Information]
Park Name	Zone & IUCN Categories
Kimberley	Multiple Use Zone (IUCN VI)
Oceanic Shoals	Multiple Use Zone (IUCN VI)
Ashmore Reef	Sanctuary Zone (IUCN Ia)
Cartier Island	Sanctuary Zone (IUCN Ia)

Habitat Critical to the Survival of Marine Turtles		[Resource Information]
Scientific Name	Behaviour	Presence
Oct - Mar		
Chelonia mydas		
Green Turtle [1765]	Nesting	Known to occur

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Boskalis Cambridge Gulf Marine Sand Sourcing Project	2025/10106		Referral Decision
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260		Completed
Marine Route Survey for Subsea Fibre Optic Data Cable System - Australia West	2024/09826		Completed
Project Crux Cable Lay and Operation	2022/09441		Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Puffin Oil wells 7, 8 & 9 development	2005/2336		Completed
Controlled action			
Audacious Oil Field Standalone Development	2001/407	Controlled Action	Completed
Decommissioning of Challis Oilfield	2003/942	Controlled Action	Post-Approval
Develop Ichthys gas-condensate field permit area W	2006/2767	Controlled Action	Completed
Development of Browse Basin Gas Fields (Upstream)	2008/4111	Controlled Action	Completed
Ichthys Gas Field, Offshore and onshore processing facilities and subsea pipeline	2008/4208	Controlled Action	Post-Approval
Montara 4, 5, and 6 Oil Production Wells, and Montara 3 Gas Re-Injection Well	2002/755	Controlled Action	Post-Approval
Prelude Floating Liquefied Natural Gas Facility and Gas Field Development	2008/4146	Controlled Action	Post-Approval
PTTEP AA Floating LNG Facility	2011/6025	Controlled Action	Completed
Not controlled action			
3D marine seismic survey in WA 314P and WA 315P	2004/1927	Not Controlled Action	Completed
Adele Trend TQ3D Seismic Survey	2001/252	Not Controlled Action	Completed
AEC International Hydrocarbon Well Puffin 6	2000/36	Not Controlled Action	Completed
Audacious-3 oil drilling well	2003/1042	Not Controlled Action	Completed
Coot-1 hydrocarbon exploration well, Permit Area AC/L2 or AC/L3	2001/296	Not Controlled Action	Completed
Crux-A and Crux-B appraisal wells, Petroleum Permit Area AC/P23	2006/2748	Not Controlled Action	Completed
Crux gas-liquids development in permit AC/P23	2006/3154	Not Controlled Action	Completed
Drilling of 12 Hydrocarbon Exploration Wells, Permit Area WA-371-P	2006/3005	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Drilling of exploration well Audacious-1 in AC/P17	2000/5	Not Controlled Action	Completed
Echuca Shoals-2 Exploration of Appraisal Well	2006/3020	Not Controlled Action	Completed
Exploration Drilling in AC/P17, AC/P18 and AC/P24	2001/359	Not Controlled Action	Completed
Exploration Well AC/P23	2001/234	Not Controlled Action	Completed
Kaleidoscope exploration well	2001/182	Not Controlled Action	Completed
Marine Survey for the Australia-ASEAN Power Link AAPL	2020/8714	Not Controlled Action	Completed
Montara-3 Offshore Hydrocarbon Exploration Well Permit Area AC/RL3	2001/489	Not Controlled Action	Completed
P30 Hydrocarbon Exploration Well	2001/293	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed
Saucepan 1 Exploration Well ACP23	2000/2	Not Controlled Action	Completed
Skua and Swift Oilfields	2006/3195	Not Controlled Action	Completed
Not controlled action (particular manner)			
2 (3D) Marine Seismic Surveys	2009/4994	Not Controlled Action (Particular Manner)	Completed
2D and 3D Seismic Survey	2011/6197	Not Controlled Action (Particular Manner)	Post-Approval
2D Marine Seismic Survey	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey of Braveheart,Kurrajong,Sunshine and Crocodile	2006/2917	Not Controlled Action (Particular Manner)	Post-Approval
2D or 3D Marine Seismic Survey in Petroleum Permit Area AC/P35	2009/4864	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
2D Seismic Marine Survey	2001/363	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic survey	2009/5076	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey in permit areas WA-274P and WA-281P	2004/1521	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey	2008/4437	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey, Permit AC/P 23	2005/2364	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, petroleum exploration permit AC/P33	2006/2918	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey of AC/P4, AC/P17 and AC/P24	2006/2857	Not Controlled Action (Particular Manner)	Post-Approval
AC/P37 3D Seismic Survey Ashmore Cartier	2007/3774	Not Controlled Action (Particular Manner)	Post-Approval
Auralandia 3D marine seismic survey	2011/5961	Not Controlled Action (Particular Manner)	Post-Approval
Aurora MC3D Marine Seismic Survey	2010/5510	Not Controlled Action (Particular Manner)	Post-Approval
Bassett 3D Marine Seismic Survey	2010/5538	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Bonaparte 2D & 3D marine seismic survey	2011/5962	Not Controlled Action (Particular Manner)	Post-Approval
Braveheart 2D Infill Marine Seismic Survey 100km offshore	2008/4442	Not Controlled Action (Particular Manner)	Post-Approval
Braveheart 2D Marine Seismic Survey	2005/2322	Not Controlled Action (Particular Manner)	Post-Approval
Canis 3D Marine Seismic Survey	2008/4492	Not Controlled Action (Particular Manner)	Post-Approval
Cartier East and Cartier West 3D Marine Seismic Surveys	2009/5230	Not Controlled Action (Particular Manner)	Post-Approval
Caswell MC3D Marine Seismic Survey	2012/6594	Not Controlled Action (Particular Manner)	Post-Approval
Drilling of Audacious-5 appraisal well	2008/4327	Not Controlled Action (Particular Manner)	Post-Approval
Drilling of Exploration & Appraisal Wells Braveheart-1 & Cornea-3	2009/5160	Not Controlled Action (Particular Manner)	Post-Approval
Drilling of two appraisal wells	2011/5840	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Campaign	2011/6047	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Campaign, Browse Basin, WA-341-P, AC-P36 and WA-343-P	2013/6898	Not Controlled Action (Particular Manner)	Post-Approval
Gicea 3D Marine Seismic Survey	2008/4389	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Ichthys 3D Marine Seismic Survey	2010/5550	Not Controlled Action (Particular Manner)	Post-Approval
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Octantis 3D Marine Seismic Survey, Permit Area AC/P41 off northern Western Australia	2007/3369	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Fibre Optic Cable Network Construction & Operation, Port Hedland WA to Darwin NT	2014/7223	Not Controlled Action (Particular Manner)	Post-Approval
Sandalford 3D Seismic Survey	2012/6261	Not Controlled Action (Particular Manner)	Post-Approval
Schild Phase 11 MC3D Marine Seismic Survey, Browse Basin	2013/6894	Not Controlled Action (Particular Manner)	Post-Approval
Searcher bathymetry & geochemical seismic survey, Brawse Basin,Timor Sea,WA	2013/6980	Not Controlled Action (Particular Manner)	Post-Approval
Songa Venus Drilling and Testing Operations	2009/5122	Not Controlled Action (Particular Manner)	Post-Approval
Thoar 3D Marine Seismic Survey	2010/5668	Not Controlled Action (Particular Manner)	Post-Approval
Tiffany 3D Seismic Survey	2010/5339	Not Controlled Action (Particular Manner)	Post-Approval
Tow West Atlas wreck from present location to boundary of EEZ	2010/5652	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Ursa 3D Marine Seismic Survey	2008/4634	Not Controlled Action (Particular Manner)	Post-Approval
Vampire 2D Non Exclusive Seismic Survey, WA	2010/5543	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Zeppelin 3D Seismic Survey	2011/6148	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
2D Marine Seismic Survey	2008/4623	Referral Decision	Completed
BRSN08 3D Marine Seismic Survey	2008/4582	Referral Decision	Completed
Puffin South-West Development of Oil Reserves	2007/3834	Referral Decision	Completed
Seismic Data Acquisition, Browse Basin	2010/5475	Referral Decision	Completed

Key Ecological Features [Resource Information]

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

Name	Region
Ancient coastline at 125 m depth contour	North-west
Ashmore Reef and Cartier Island and surrounding Commonwealth waters	North-west
Carbonate bank and terrace system of the Sahul Shelf	North-west
Continental Slope Demersal Fish Communities	North-west

Biologically Important Areas [Resource Information]

Scientific Name	Behaviour	Presence
Dugong		

Scientific Name	Behaviour	Presence
Dugong dugon Dugong [28]	Foraging (high density seagrass beds)	Known to occur
Marine Turtles		
Chelonia mydas Green Turtle [1765]	Foraging	Likely to occur
Chelonia mydas Green Turtle [1765]	Internesting buffer	Likely to occur
Chelonia mydas Green Turtle [1765]	Internesting buffer	Known to occur
Chelonia mydas Green Turtle [1765]	Nesting	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Foraging	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Known to occur
Natator depressus Flatback Turtle [59257]	Foraging	Known to occur
Seabirds		
Ardenna tenuirostris Short-tailed Shearwater [84292]	Breeding	Known to occur
Fregata ariel Lesser Frigatebird [1012]	Breeding	Known to occur
Fregata minor Greater Frigatebird [1013]	Breeding	Known to occur
Phaethon lepturus White-tailed Tropicbird [1014]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Breeding	Known to occur

Scientific Name	Behaviour	Presence
Sternula albifrons sinensis Little Tern [82850]	Resting	Known to occur
Sula leucogaster Brown Booby [1022]	Breeding	Known to occur
Sula sula Red-footed Booby [1023]	Breeding	Known to occur
Thalasseus bengalensis Lesser Crested Tern [66546]	Breeding	Known to occur
Sharks		
Rhincodon typus Whale Shark [66680]	Foraging	Known to occur
Whales		
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Migration	Known to occur

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

Please feel free to provide feedback via the Contact us page.

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EPBC Act Protected Matters Report

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

ECOLOGICAL EMBA

Report created: 05-Sep-2025

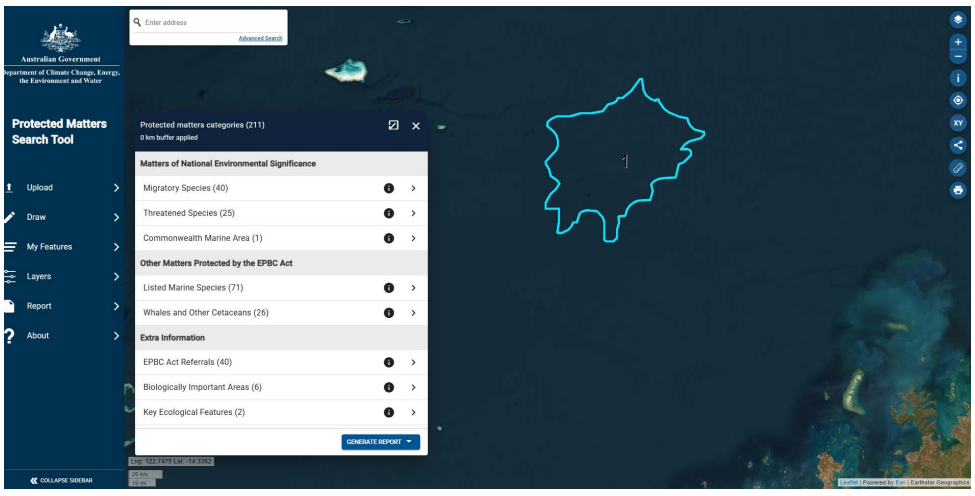
[Summary](#)

[Details](#)

- [Matters of NES](#)
- [Other Matters Protected by the EPBC Act](#)
- [Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	1
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	25
Listed Migratory Species:	40

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	71
Whales and Other Cetaceans:	26
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	40
Key Ecological Features (Marine):	2
Biologically Important Areas:	6
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Commonwealth Marine Area [Resource Information]

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

Feature Name
Commonwealth Marine Areas (EPBC Act)

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 known to occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus		
Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
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

Scientific Name	Threatened Category	Presence Text
[Phaethon lepturus fulvus](#)		
Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Foraging, feeding or related behaviour likely to occur within area
[Phaethon rubricauda westralis](#)		
Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat likely to occur within area
MAMMAL		
[Balaenoptera borealis](#)		
Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
[Balaenoptera musculus](#)		
Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
[Balaenoptera physalus](#)		
Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
REPTILE		
[Aipysurus foliosquama](#)		
Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
[Aipysurus fuscus](#)		
Dusky Sea Snake [1119]	Endangered	Species or species habitat may occur within area
[Caretta caretta](#)		
Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely to occur within area
[Chelonia mydas](#)		
Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
[Dermochelys coriacea](#)		
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
SHARK		
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Glyphis garricki Northern River Shark, New Guinea River Shark [82454]	Endangered	Species or species habitat may occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Endangered	Species or species habitat may occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area

Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
null		
Balaenoptera omurai Omura's Whale [87136]		Species or species habitat likely to occur within area
Migratory Marine Birds		

Scientific Name	Threatened Category	Presence Text
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat likely to occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Species or species habitat likely to occur within area
Sula sula Red-footed Booby [1023]		Breeding known to occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat may occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area
Carcharias taurus Grey Nurse Shark [64469]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat likely to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Endangered	Species or species habitat may occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area

Migratory Wetlands Species

Scientific Name	Threatened Category	Presence Text
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat likely to occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Species or species habitat likely to occur within area
Sula sula Red-footed Booby [1023]		Breeding known to occur within area
Fish		
Bhanotia fasciolata Corrugated Pipefish, Barbed Pipefish [66188]		Species or species habitat may occur within area
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area
Cosmocampus banneri Roughridge Pipefish [66206]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Reptile		
Aipysurus duboisii Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Aipysurus fuscus Dusky Sea Snake [1119]	Endangered	Species or species habitat may occur within area
Aipysurus laevis Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
Aipysurus mosaicus as Aipysurus eydouxii Mosaic Sea Snake [87261]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
Emydocephalus annulatus Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area
Hydrophis coggeri Cogger's Sea Snake, Black-headed Sea Snake [25925]		Species or species habitat may occur within area
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]		Species or species habitat may occur within area
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area
Hydrophis macdowelli as Hydrophis mcdowelli MacDowell's Sea Snake, Small-headed Sea Snake, [75601]		Species or species habitat may occur within area
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hydrophis platura as Pelamis platurus		
Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area
Hydrophis stokesii as Astrotia stokesii		
Stokes' Sea Snake [93510]		Species or species habitat may occur within area
Hydrophis zweifeli as Enhydrina schistosa		
Australian Beaked Sea Snake [93514]		Species or species habitat may occur within area
Lepidochelys olivacea		
Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera borealis		
Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni		
Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus		
Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera omurai		
Omura's Whale [87136]		Species or species habitat likely to occur within area
Balaenoptera physalus		
Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
Lagenodelphis hosei Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat likely to occur within area
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
Steno bredanensis Rough-toothed Dolphin [30]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat may occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Marine Route Survey for Subsea Fibre Optic Data Cable System - Australia West	2024/09826		Completed
Project Crux Cable Lay and Operation	2022/09441		Completed
Puffin Oil wells 7, 8 & 9 development	2005/2336		Completed
Controlled action			
Ichthys Gas Field, Offshore and onshore processing facilities and subsea pipeline	2008/4208	Controlled Action	Post-Approval
Montara 4, 5, and 6 Oil Production Wells, and Montara 3 Gas Re-Injection Well	2002/755	Controlled Action	Post-Approval
PTTEP AA Floating LNG Facility	2011/6025	Controlled Action	Completed
Not controlled action			
AEC International Hydrocarbon Well Puffin 6	2000/36	Not Controlled Action	Completed
Coot-1 hydrocarbon exploration well, Permit Area AC/L2 or AC/L3	2001/296	Not Controlled Action	Completed
Crux-A and Crux-B appraisal wells, Petroleum Permit Area AC/P23	2006/2748	Not Controlled Action	Completed
Crux gas-liquids development in permit AC/P23	2006/3154	Not Controlled Action	Completed
Exploration Well AC/P23	2001/234	Not Controlled Action	Completed
Montara-3 Offshore Hydrocarbon Exploration Well Permit Area AC/RL3	2001/489	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed
Saucepan 1 Exploration Well ACP23	2000/2	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Skua and Swift Oilfields	2006/3195	Not Controlled Action	Completed
Not controlled action (particular manner)			
2 (3D) Marine Seismic Surveys	2009/4994	Not Controlled Action (Particular Manner)	Completed
2D and 3D Seismic Survey	2011/6197	Not Controlled Action (Particular Manner)	Post-Approval
2D Marine Seismic Survey	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey of Braveheart,Kurrajong,Sunshine and Crocodile	2006/2917	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Marine Survey	2001/363	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic survey	2009/5076	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey	2008/4437	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey, Permit AC/P 23	2005/2364	Not Controlled Action (Particular Manner)	Post-Approval
AC/P37 3D Seismic Survey Ashmore Cartier	2007/3774	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte 2D & 3D marine seismic survey	2011/5962	Not Controlled Action (Particular Manner)	Post-Approval
Braveheart 2D Marine Seismic Survey	2005/2322	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Canis 3D Marine Seismic Survey	2008/4492	Not Controlled Action (Particular Manner)	Post-Approval
Cartier East and Cartier West 3D Marine Seismic Surveys	2009/5230	Not Controlled Action (Particular Manner)	Post-Approval
Caswell MC3D Marine Seismic Survey	2012/6594	Not Controlled Action (Particular Manner)	Post-Approval
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Octantis 3D Marine Seismic Survey, Permit Area AC/P41 off northern Western Australia	2007/3369	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Fibre Optic Cable Network Construction & Operation, Port Hedland WA to Darwin NT	2014/7223	Not Controlled Action (Particular Manner)	Post-Approval
Schild Phase 11 MC3D Marine Seismic Survey, Browse Basin	2013/6894	Not Controlled Action (Particular Manner)	Post-Approval
Searcher bathymetry & geochemical seismic survey, Brawse Basin,Timor Sea,WA	2013/6980	Not Controlled Action (Particular Manner)	Post-Approval
Tow West Atlas wreck from present location to boundary of EEZ	2010/5652	Not Controlled Action (Particular Manner)	Post-Approval
Vampire 2D Non Exclusive Seismic Survey, WA	2010/5543	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Zeppelin 3D Seismic Survey	2011/6148	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Referral decision			
2D Marine Seismic Survey	2008/4623	Referral Decision	Completed
Puffin South-West Development of Oil Reserves	2007/3834	Referral Decision	Completed

Key Ecological Features [Resource Information]

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

Name	Region
Ancient coastline at 125 m depth contour	North-west
Carbonate bank and terrace system of the Sahul Shelf	North-west

Biologically Important Areas [Resource Information]

Scientific Name	Behaviour	Presence
Seabirds		
Ardenna tenuirostris Short-tailed Shearwater [84292]	Breeding	Known to occur
Fregata ariel Lesser Frigatebird [1012]	Breeding	Known to occur
Fregata minor Greater Frigatebird [1013]	Breeding	Known to occur
Phaethon lepturus White-tailed Tropicbird [1014]	Breeding	Known to occur
Sula sula Red-footed Booby [1023]	Breeding	Known to occur
Sharks		
Rhincodon typus 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 is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

Please feel free to provide feedback via the Contact us page.

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Sea Eagle-1 and Tahbilk-1 Vessel Based Activity Environment Plan

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APPENDIX F - HYDROCARBON IMPACT THRESHOLDS

Appendix F 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 shoreline accumulation) 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 and shoreline accumulation) oil, entrained oil and dissolved aromatic hydrocarbons (DAHs). The thresholds discussed and used in modelling are provided in Table 1.

Table 1: Low, moderate and high exposure thresholds used for spill modelling

Threshold Level	Floating oil (g/m^2)	Shoreline loading (g/m^3)	Entrained oil (ppb)	Dissolved aromatic hydrocarbons (ppb)
Low	1	10	10	10
Moderate	10	100	100	50
High	50	>1,000	-	400

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 form 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.

The low threshold to assess the potential for floating oil exposure, was 1 g/m^2, which equates approximately to an average thickness of 1 µm, referred to as visible oil. Oil of this thickness is described as rainbow sheen in appearance, according to the Bonn Agreement Oil Appearance Code (Bonn Agreement, 2009; AMSA, 2014). This threshold is considered below levels which would cause environmental harm and it is more indicative of the areas perceived to be affected due to its visibility on the sea surface and potential to trigger temporary closures of areas (i.e. fishing grounds) as a precautionary measure.

Ecological impact has been estimated to occur at 10 g/m^2 (a film thickness of approximately 10 µm or 0.01 mm) according to French et al. (1996) and French-McCay (2009) as this level of fresh oiling has been observed to mortally impact some birds through adhesion of oil to their feathers, exposing them to secondary effects such as hypothermia. The appearance of oil at this average thickness has been described as a metallic sheen (Bonn Agreement, 2009).

Scholten et al. (1996) and Koops et al. (2004) indicated that at oil concentrations on the sea surface of 25 g/m^2 (or greater), would be harmful for all birds that have landed in an oil film due to potential contamination of their feathers, with secondary effects such as loss of temperature regulation and ingestion of oil through preening. The appearance of oil at this thickness is also described as metallic sheen (Bonn Agreement, 2009). For this study the high exposure threshold was set to 50 g/m2 and above based on NOPSEMA (2019). This threshold can also be used to inform response planning (RPS APASA, 2023).

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Shoreline Accumulation

There are many different types of shorelines, ranging from cliffs, rocky beaches, sandy beaches, mud flats and mangroves, and each of these influences the volume of oil that can remain stranded ashore and its thickness before the shoreline saturation point occurs. For instance, a sandy beach may allow oil to percolate through the sand, thus increasing its ability to hold more oil ashore over tidal cycles and various wave actions than an equivalent area of water; hence oil can increase in thickness onshore over time. A sandy beach shoreline was assumed as the default shoreline type for the modelling for this activity, as it allows for the highest carrying capacity of oil (of the available open/exposed shoreline types). Hence the results would be indicative of a worst-case scenario, where the highest volume of oil may be stranded on the shoreline (when compared to other shoreline types, such as exposed rocky shores).

In previous risk assessment studies, French-McCay et al. (2005a; 2005b) used a threshold of 10 g/m^2 to assess the potential for shoreline accumulation. This is a conservative threshold used to define regions of socio-economic impact, such as triggering temporary closures of adjoining fisheries or the need for shore clean-up on beaches or man-made features/amenities (breakwaters, jetties, marinas, etc.). It would equate to approximately 2 teaspoons of hydrocarbon per square meter of shoreline accumulation. The appearance is described as a stain/film. On that basis, the 10 g/m^2 shoreline accumulation threshold has been selected to define the zone of potential “low shoreline accumulation” (RPS, 2023).

French et al. (1996) and French-McCay (2009) define a shoreline oil accumulation threshold of 100 g/m^2, or above, would potentially harm shorebirds and wildlife (furbearing aquatic mammals and marine reptiles on or along the shore) based on studies for sub-lethal and lethal impacts. This threshold has been used in previous environmental risk assessment studies (see French-McCay, 2003; French-McCay et al., 2004, French-McCay et al., 2011; 2012; NOAA, 2013). Additionally, a shoreline concentration of 100 g/m^2, or above, is the minimum limit that the oil can be effectively cleaned according to the AMSA (2015) guideline. This threshold equates to approximately ½ a cup of oil per square meter of shoreline accumulation. The appearance is described as a thin oil coat. Therefore, 100 g/m^2 has been selected to define the zone of potential “moderate shoreline accumulation” (RPS, 2023).

Observations by Lin & Mendelssohn (1996) demonstrated that loadings of more than 1,000 g/m^2 of hydrocarbon during the growing season would be required to impact marsh plants significantly. Similar thresholds have been found in studies assessing hydrocarbon impacts on mangroves (Grant et al., 1993; Suprayogi & Murray, 1999). Hence, 1,000 g/m^2 has been

selected to define the zone of potential "high shoreline accumulation". It equates to approximately 1 litre of hydrocarbon per square meter of shoreline accumulation. The appearance is described as a hydrocarbon cover.

It is worth noting that the shoreline accumulation thresholds derived from extensive literature review (RPS, 2023) agree with the commonly used threshold values for oil spill modelling specified in NOPSEMA (2019)

Entrained oil

Entrained oil is oil that is dispersed within the water column as oil droplets. As such, insoluble compounds in oil cannot be absorbed from the water column by aquatic organisms, hence are not bioavailable through absorption of compounds from the water. Exposure to these compounds would require routes of uptake other than absorption of soluble compounds. The route of exposure of organisms to whole oil alone include direct contact with tissues of organisms and uptake of oil by direct consumption, with potential for biomagnification through the food chain (NRC, 2005). 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.The 10 ppb threshold represents the very lowest concentration and corresponds generally with the lowest trigger levels for chronic exposure for entrained hydrocarbons in the ANZECC & ARMCANZ (2000) water quality guidelines. Due to the requirement for relatively long exposure times (> 24 hours) for these concentrations to be significant, they are likely to be more meaningful for juvenile fish, larvae and planktonic organisms that might be entrained (or otherwise moving) within the entrained plumes, or when entrained hydrocarbons adhere to organisms or trapped against a shoreline for periods of several days or more.

This exposure zone is not considered to be of significant biological impact and is therefore outside the adverse exposure zone. This exposure zone represents the area contacted by the spill. This area does not define the area of influence as it is considered that the environment will not be affected by the entrained hydrocarbon at this level.

Thresholds of 10 ppb and 100 ppb were applied over a 1-hour time exposure (RPS, 2023), to cover the range of thresholds outlined in ANZECC & ARMCANZ (2000) water quality guidelines, the incremental change for greater potential effect and is per NOPSEMA (2019).

A complicating factor that should be considered when assessing the consequence of dissolved and entrained oil distributions is that there will be some areas where both physically entrained oil droplets and dissolved hydrocarbons co-exist. Higher concentrations of each will tend to occur close to the source where sea conditions can force mixing of relatively unweathered oil into the water column, resulting in more rapid dissolution of soluble compounds.

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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 mode of action is a narcotic effect, which is positively related to the concentration of soluble hydrocarbons in the body tissues of organisms (French-McCay, 2002). 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.

Hydrocarbon compounds vary in water-solubility and the toxicity exerted by individual compounds is inversely related to solubility, however bioavailability will be modified by the volatility of individual compounds (Nirmalakhandan & Speece, 1988; Blum & Speece, 1990; McCarty, 1986; McCarty et al., 1992a, 1992b; Mackay et al., 1992; McCarty & Mackay, 1993; Verhaar et al., 1992, 1999; Swartz et al., 1995; French-McCay, 2002; McGrath and Di Toro, 2009). Of the soluble compounds, the greatest contributor to toxicity for water-column and benthic organisms are the lower-molecular-weight aromatic compounds, which are both volatile and soluble in water. Although they are not the most water-soluble hydrocarbons within most oil types, the polynuclear aromatic hydrocarbons (PAHs) containing 2-3 aromatic ring structures typically exert the largest narcotic effects because they are semi-soluble and not highly volatile, so they persist in the environment long enough for significant accumulation to occur (Anderson et al., 1974, 1987; Neff & Anderson, 1981; Malins & Hodgins, 1981; McAuliffe, 1987; NRC, 2003). The monoaromatic hydrocarbons (MAHs), including the BTEX compounds (benzene, toluene, ethylbenzene, and xylenes), and the soluble alkanes (straight chain hydrocarbons) also contribute to toxicity, but these compounds are highly volatile, so that their contribution will be low when oil is exposed to evaporation and higher when oil is discharged at depth where volatilisation does not occur (French-McCay, 2002).

French-McCay (2002) reviewed available toxicity data, where marine biota was exposed to dissolved hydrocarbons prepared from oil mixtures, finding that 95% of species and life stages exhibited 50% population mortality (LC50) between 6 and 400 ppb total PAH concentration after 96 hrs exposure, with an average of 50 ppb. Hence, concentrations lower than 6 ppb total PAH value should be protective of 97.5% of species and life stages even with exposure periods of days (at least 96 hours). Early life-history stages of fish appear to be more sensitive than older fish stages and invertebrates.

Exceedances of 10, 50 or 400 ppb over a 1-hour timestep was applied in the modelling (RPS, 2023) to indicate increasing potential for sub-lethal to lethal toxic effects (or low to high), based on NOPSEMA (2019).

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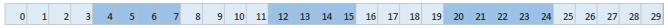
Sea Eagle-1 and Tahbilk-1 Vessel Based Activity Environment Plan

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APPENDIX G – ESTIMATED TIMEFRAME FOR RESPONSE TO MINOR WELLHEAD LEAK

	Week Duration	Justification
Notification and Evaluation		
Mobilise helicopter for arial survey	1	First available resource, anticipate 1-2 days after notification.
Mobilise vessel for sea surface survey	1	First available resource, anticipate 1-2 days after notification.
Contract ROV for subsea survey	1	Need to identify available resource and put contract in place. *
Mobilise ROV vessel and perform subsea survey	2	Assumes either using an asset between activities or mobilising an ROV with sampling capability to another type of vessel.
Response Vessel		
Contract MODU or Subsea Intervention Vessel	2	Aggressive timing, assumes working with a known contractor where key terms and conditions are established.
Prepare VSCR	4	Time to update with project specific information, risk assess, prepare and review. Cannot commence until response vessel is known. For expediency, this assumes a vessel with existing safety case is taken up.
Undertake engineering and fabrication of equipment to interface response vessel with well	8	Cannot start on this activity until the response vessel is known.
Mobilise response vessel	12	Based on past market query experience where response vessels are either working in Australia on a campaign or would need to be mobilised from abroad.
Complete well operations	4	Estimate. Includes time to mobilise, position vessel, connect to well and perform the activity.
Engineering & Planning		
Perform detailed well engineering	6	Activity can start immediately after site survey information is gathered. This activity will include risk management processes.
Risk management processes	1	Following JSE risk management processes, time for HAZID, HAZOP workshops, write up and follow on assurance activities.
DP3 assurance activities	1	JSE project management and assurance activities.
Implement service agreements	6	Can commence shortly after initial engineering assessment to verify required services and after the response vessel has been confirmed.
Prepare and review WOMP	2	Time taken to prepare and review the WOMP for submission.
Prepare detailed operations procedures	3	Time to prepare and review procedures.
Mobilise bulks, materials and other tooling	3	Not critical path, time with response vessel availability.
Permissioning		
Submit VSCR for approval	4	Based on experience
Submit WOMP for approval	2	Based on experience



* Assumes that this is not treated as a Loss of Well Control Event and no Safety Case Revision is required. NOPSEMA Information Paper A787102 advises that for a Loss of Well Control Event, that ROV monitoring will require a Safety Case.