



BLACKTIP OFFSHORE DRILLING ENVIRONMENT PLAN

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ACRONYMS AND DEFINITIONS USED IN THIS DOCUMENT


Nomenclature	Definition
°C	degrees Celsius
μ	micro
AEP	Australian Energy Producer
AFMA	Australian Fisheries Management Authority
AHO	Australian Hydrographic Office
AIMS	Australian Institute of Marine Science
ALARP	as low as reasonably practicable
AMOSC	Australian Marine Oil Spill Centre
AMSA	Australian Maritime Safety Authority
AMP	Australian Marine Park
APPEA	Australian Petroleum Production and Exploration Association
bbbl	barrel
bcf	billion cubic feet
BIA	biologically important area
BOP	blowout preventer
BTEX	benzene, ethylbenzene, toluene and xylene
BWMS	ballast water management system
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CEP	condensate export pipeline
CFA	Commonwealth Fisheries Association
CH ₄	methane
CMT	Crisis Management Team
CO ₂	carbon dioxide
DAWE	Department of Agriculture, Water and the Environment
DBCA	Department of Biodiversity, Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water (previously DAWE)
DISR	Department of Industry, Science and Resources
DEMIRS	Western Australia Department of Energy, Mines, Industry Regulation and Safety
DNP	Director of National Parks
DoEE	Department of the Environment and Energy (now Department of Agriculture, Water and the Environment)
DoT	Western Australian Department of Transport
DP	dynamic positioning
DPIRD	Western Australia Department of Primary Industry, Resources and Development
EC50	half maximal effective concentration
EMBA	environment that may be affected
Eni	Eni Australia BV

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Nomenclature	Definition
EPBC	environmental protection and biodiversity conservation
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EP	Environment Plan
EPA	Environmental Protection Agency
EPO	environmental performance outcome
EPBC	Environment Protection and Biodiversity Conservation
EPS	environmental performance standard
ES	echosounder
ESD	ecological sustainable development
FME	full moon equivalent
GEP	gas export pipeline
GHG	greenhouse gases
H ₂ S	hydrogen sulphide
HOCNF	harmonised offshore chemical notification format
HQ	hazard quotient
hr	hour(s)
HSE	health, safety and environment
HSE IMS	health, safety and environment integrated management system
Hz	hertz
IAP	incident action plan
ICM	incident and crisis management
IMO	International Maritime Organisation
IMS	invasive marine species
IMT	Incident Management Team
IOGP	International Oil & Gas Producers Association
IPA	Indigenous Protected Area
IUCN	International Union for Conservation of Nature
JBG	Joseph Bonaparte Gulf
KEF	key ecological feature
kHz	kilohertz
kg	kilogram(s)
km	kilometre(s)
L	litre(s)
LC 50	lethal concentration 50
m	metre(s)
MARPOL	International Convention for the Prevention of Pollution from Ships
MBES	multibeam echo sounder
MC	measurement criteria
MEG	mono-ethylene glycol
mg	milligram(s)
MDO	marine diesel oil
min	minute(s)

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Nomenclature	Definition
mL	millilitre(s)
mm	millimetre(s)
MMscf	million standard cubic feet
MMSI	maritime mobile service identity
MNES	matters of national environmental significance
MoC	management of change
MODU	mobile offshore drilling unit
N ₂ O	nitrous oxide
NAXA	North Australia Exercise Area
NEBA	net environmental benefit analysis
NGER	National Greenhouse and Energy Reporting
NIAA	National Indigenous Australians Agency
NLC	Northern Land Council
nm	nautical mile(s)
NMFS	National Marine Fisheries Service
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NORMS	naturally occurring radioactive materials
NOPTA	National Offshore Petroleum Titles Administrator
NPF	Northern Prawn Fishery
NT	Northern Territory
OCNS	Offshore Chemical Notification Scheme
OIM	Offshore Installation Manager
OIW	oil in water
OMP	Operational Monitoring Plan
OPEP	Offshore Pollution Emergency Plan
OPGGS Regulations	Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023
OSPAR	oil spill prevention, administration and response
OSRL	Oil Spill Response Limited
OWR	oiled wildlife response
PBC	prescribed body corporate
PMST	Protected Matters Search Tool
PSZ	petroleum safety zone
PTS	permanent threshold shift
ppb	parts per billion
PW	produced water
RCC	Rescue Coordination Centre
ROV	remotely operated vehicle
SCE	solids control equipment
SCRIP	Source control response plan

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Nomenclature	Definition
SEWPaC	Department of Sustainability, Environment, Water, Population and Communities
SEL	sound exposure level
SMP	Stakeholder Management Plan
SO _x	sulfur oxides
SOPEP	Shipboard Oil Pollution Emergency Plan
SPL	sound pressure level
SPM	single point mooring
SSS	side scan sonar
TDC	Thamarrurr Development Corporation Ltd
TLC	Tiwi Land Council
TTS	temporary threshold shift
TSS	total suspended sediment
yr	year(s)
US	United States
WA	Western Australia
WAFIC	Western Australian Fishing Industry Council
WBM	water-based mud
WHP	wellhead platform
WOMP	Well Operations Management Plan
YGP	Yelcherr Gas Plant
ZPI	zone of potential impact

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1 INTRODUCTION

1.1 Project Overview and Background

Eni Australia BV (Eni) operates the Blacktip facilities, approximately 300km west-south-west of Darwin, located in Lease Area WA-33-L, within Commonwealth waters in the Joseph Bonaparte Gulf (JBG). The facilities consist of a normally unpopulated wellhead platform (WHP), producing wells, flowlines, and a subsea gas export pipeline (GEP) (Licence WA-15-PL, NT/PL2) bringing whole well stream fluid (as in, gas, condensate and produced water) to the Yelcherr Gas Plant (YGP) near Wadeye in the Northern Territory (NT). Stabilised condensate is stored on site at the YGP before being exported via a subsea condensate export pipeline (CEP) (NT/PL3) to a single point mooring (SPM), located approximately 7km offshore in Commonwealth waters, for loading to tanker vessels and subsequent transport to market.

Figure 1.1 and Figure 1.2 present the location of the Blacktip facilities, a more detailed map is presented in Section 3.3. A portion of the GEP, CEP and the SPM overlap the Joseph Bonaparte Gulf Australian Marine Park Multiple Use Zone, which was established after the construction of the Blacktip offshore facilities. This infrastructure is managed under the Blacktip Operations EP (000036_DV_PR.HSE.0677.000).

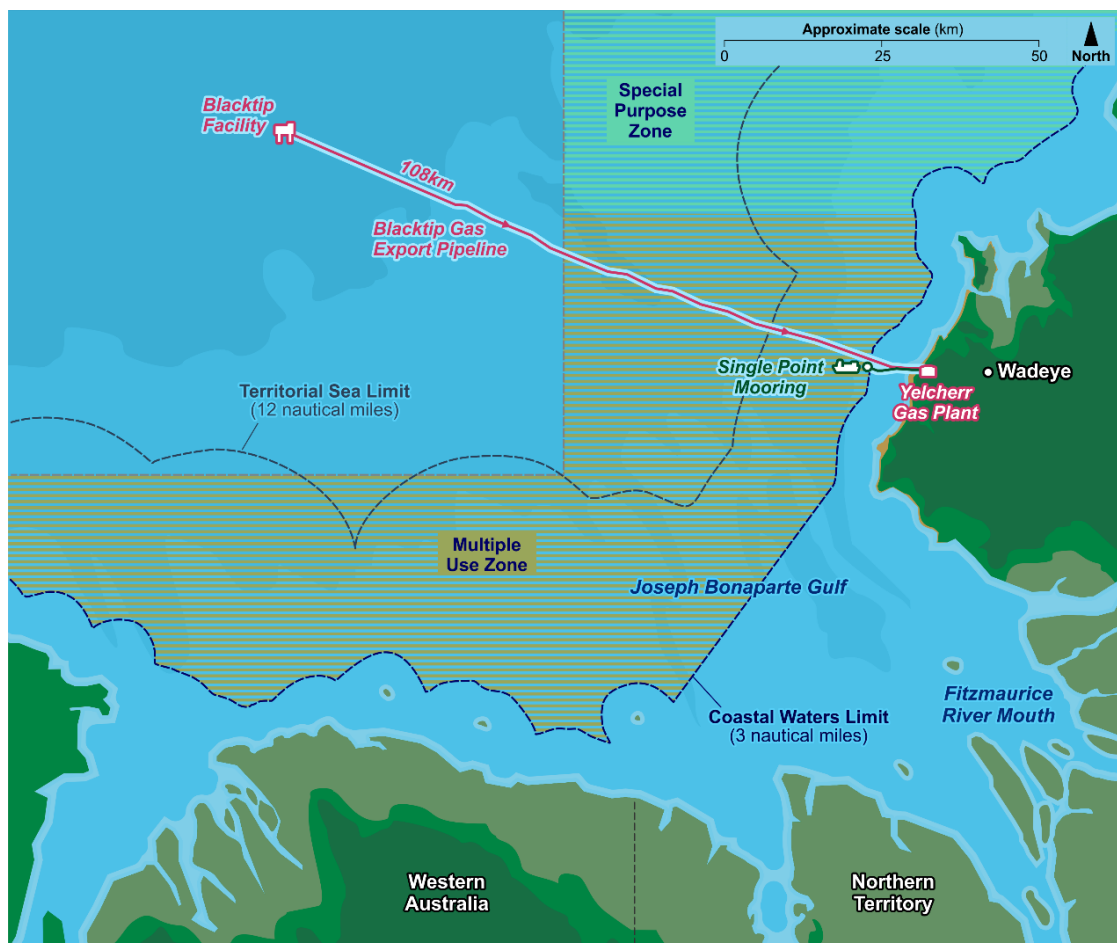


Figure 1.1: Blacktip facilities overview (1)



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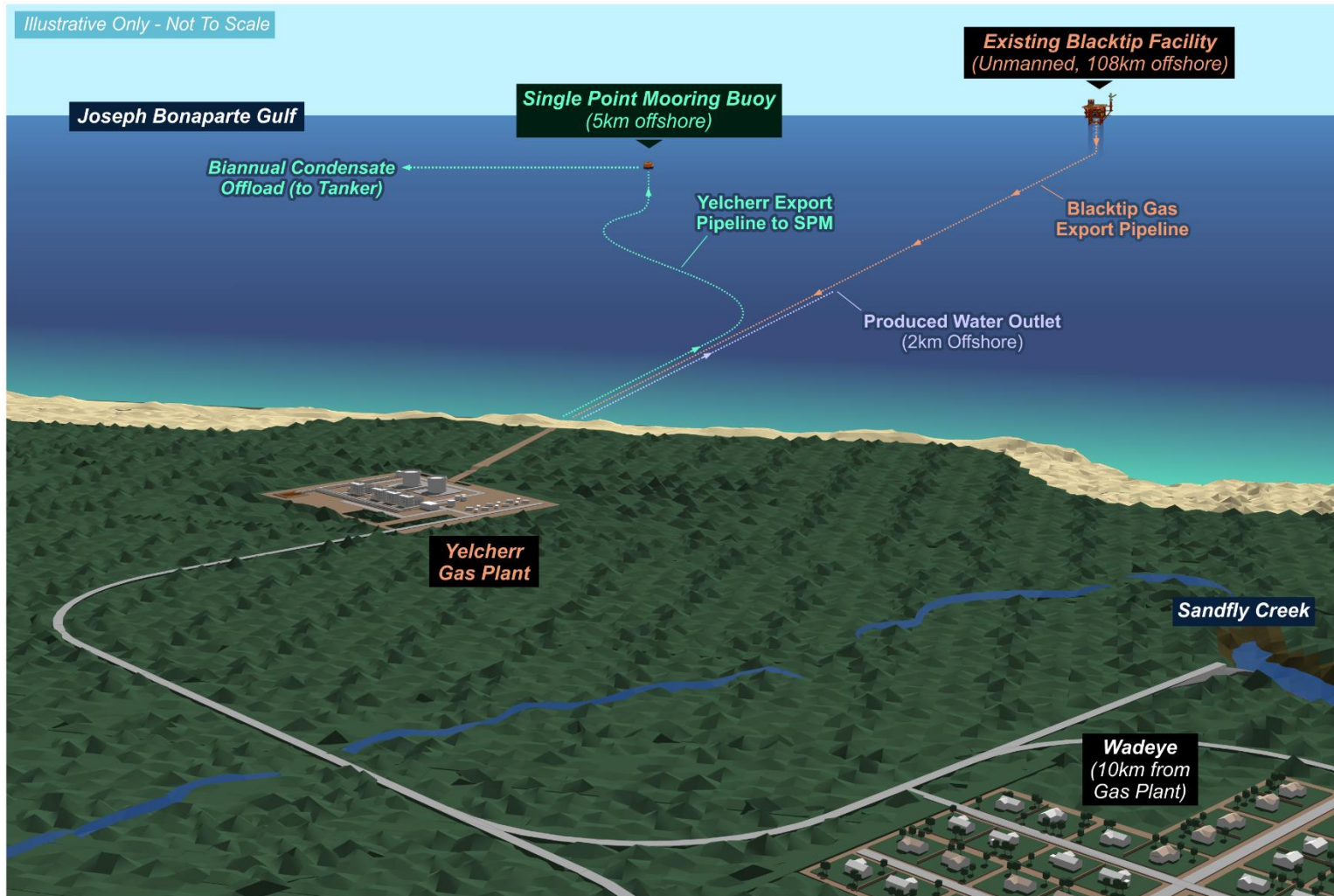



Figure 1.2: Blacktip facilities overview (2)

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While the ongoing operations of the Blacktip facilities are within the scope of the in-force Blacktip Operations Environment Plan (EP) (000036_DV_PR.HSE.0677.0000). The Blacktip Drilling EP (this EP) is a standalone drilling EP covering the development drilling and completion scope for a new Blacktip development well at the WHP; herein, this scope is referred to as Blacktip drilling activities.

The schedule for these drilling activities will be subject to jack-up mobile offshore drilling unit (MODU) availability; however, is anticipated to take place between 2024 and 2027. Once drilled, the new well will be shut in, its production will be covered under the Blacktip Operations EP (000036_DV_PR.HSE.0677.0000). The WHP is located approximately 300km west-south-west of Darwin and the nearest shoreline is approximately 100km to the east and 100km to the south.

Table 1.1 further clarifies the scopes of the Blacktip Drilling EP and the Blacktip Operations EP (000036_DV_PR.HSE.0677.000).


Table 1.1: Blacktip Operations Environment Plan scopes

Environment Plan	Scope
Blacktip Drilling EP (this EP)	Geophysical survey The mobilisation, positioning, and demobilisation of a MODU Drilling and completions Intervention (rig-based) Contingent Workover Operations (Contingent on intervention outcome)
Blacktip Operations EP (000036_DV_PR.HSE.0677.000)	Ongoing operations of Blacktip facilities, including the production from Blacktip wells included in the EP Geophysical survey The mobilisation, positioning, and demobilisation of a MODU Hook-up and commissioning of Blacktip wells Intervention (rig-less based)

1.2 Purpose

This EP has been prepared as part of the requirements under the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (OPGGs(E) Regulations), as administered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this EP is to identify the potential environmental risks and impacts that may result from the proposed Blacktip drilling activity. Management measures have been identified to reduce the environmental risks and impacts to an acceptable level. Activity specific performance outcomes, standards and measurement criteria have been developed to reduce impacts and risks to 'as low as reasonably practicable' (ALARP).

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The Operational Area for this EP is located within Commonwealth waters, where the Blacktip drilling activities will be undertaken. The extent of the Operational Area is defined in Section 3.3.1. This EP only addresses the potential environmental impacts from planned petroleum activities within the Operational Area and any potential unplanned events that originate from within the Operational Area.

1.3 Environment Plan Summary

An EP summary has been prepared from material provided in this EP (Table 1.2), as required by Regulation 11(5).

Table 1.2: Environment Plan summary

EP summary material requirement	Relevant section of this EP containing EP summary material
The location of the activity	Section 3.3
A description of the receiving environment	Section 4
A description of the activity	Section 2.1.3
Details of the environmental impacts and risks	Sections 7 and 8
The control measures for the activity	Sections 7 and 8
The arrangements for ongoing monitoring of the titleholder's environmental performance	Section 9
Response arrangements in the Oil Pollution Emergency Plan (OPEP)	Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15)
Consultation already undertaken and plans for ongoing consultation	Section 5
Details of the titleholder's nominated liaison person for the activity	Section 1.4.1

1.4 Details of Titleholder


Eni Australia BV (Eni) is the Permit Holder for Production Licence WA-33-L and the Blacktip Pipeline Licences WA-15-PL, NT/PL2 and NT/PL3. The Blacktip field and associated offshore infrastructure as well as YGP are 100% owned and operated by Eni. Eni is a subsidiary of Eni S.p.A., one of the world's major integrated energy companies, operating in 70 countries around the world, with headquarters in Milan, Italy.

Eni's Australian head office is in Perth (address below), with a secondary office in Darwin. As well as the Blacktip operations, Eni has ongoing offshore exploration and joint venture production interests. Eni also has three solar plants in the NT, generating approximately 59 MW.

Eni's contact details are:

Eni Australia BV
226 Adelaide Terrace
Perth WA 6000
Telephone: (08) 9320 1111

Eni's Australian Business Number is 18 092 812 023 and Australian Company Number is 092 812 023. Eni Australia Ltd is an affiliate of Eni Australia BV.

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1.4.1 Details of the Liaison Person

The nominated liaison person for this EP is:

Joe Covic
 Eni Australia Ltd
 Tel: (08) 9320 1111
 Email: info@eniaustralia.com.au

1.4.2 Notifying of Change

Should the titleholder, titleholder's nominated liaison person or contact details for the titleholder or liaison person change, NOPSEMA will be notified in writing of the change and provided with the new details.

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2 ENVIRONMENTAL LEGISLATION

The OPGGS(E) Regulation 21(4) requires Eni to describe in this EP the relevant requirements that apply to the Blacktip drilling activities, along with how they will be met. Relevant legislation, standards and guidelines are summarised in the next subsections and include:

- Commonwealth legislation (Section 2.1)
- Commonwealth polices and guidelines (Section 2.2)
- international Agreements and Conventions (Section 2.3).

While this EP applies to Commonwealth petroleum activities, Sections 2.4 and 2.5 summarise key State requirements relevant to aspects of the Blacktip operations outside of NOPSEMA's jurisdiction.

2.1 Commonwealth Legislation

The Blacktip drilling activities will be conducted in Commonwealth waters and is therefore subject to Commonwealth legislation, specifically:

- *the Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGS Act, Section 2.1.1)
- *the Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act, Section 2.1.2).

Other Commonwealth legislation is also applicable to environmental management of the Blacktip drilling activities; these have been considered in Section 2.1.3.


2.1.1 Offshore Petroleum and Greenhouse Gas Storage Act 2006

The OPGGS Act is the principal legislation managing petroleum activities in Australian Commonwealth waters. The OPGGS Act and supporting regulations address all licencing, health, safety environmental and royalty issues for offshore petroleum and gas exploration and production operations in Commonwealth waters.

The OPGGS(E) Regulations prescribe the requirements for management of environmental impacts associated with petroleum activities and require proponents to submit an EP to the Regulatory Authority for acceptance before activities commence. The object of the OPGGS(E) Regulations is to ensure petroleum activities in Commonwealth waters are performed in a manner:

- consistent with the principles of environmentally sustainable development set out in section 3A of the EPBC Act
- by which the environmental impacts and risks of the activity will be reduced to ALARP
- by which the environmental impacts and risks of the activity will be at an acceptable level.

OPGGS(E) Regulations also include requirements for considering matters of national environmental significance (MNES), as defined in Part 3 of the EPBC Act.

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Section 572 of the OPGGS Act requires complete removal of all infrastructure above the mudline and plug and abandonment of wells as the base case. This requirement has been discussed further in Section 3.2.

Table 2.1 includes the pertinent sections of the OPGGS(E) Regulations and details the sections of this EP which ensure compliance with the requirements.




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Table 2.1: Requirements of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations


Reg.	Requirement	Relevant section in the EP
Consultation with relevant authorities, persons and organisations, etc		
25(1)	In the course of preparing an environment plan, or a revision of an environment plan, a titleholder must consult each of the following (<i>a relevant person</i>): <ul style="list-style-type: none"> • 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 • each Department or agency of a State or the NT to which the activities to be carried out under the environment plan, or the revision of the environment plan, may be relevant • the Department of the responsible State Minister, or the responsible NT Minister • 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 • any other person or organisation that the titleholder considers relevant. 	Section 5 Stakeholder Consultation
25(2)	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.	Section 5 Stakeholder Consultation
25(3)	The titleholder must allow a relevant person a reasonable period for the consultation.	Section 5 Stakeholder Consultation
25(4)	The titleholder must tell each relevant person the titleholder consults that: <p>(a) the relevant person may request that particular information the relevant person provides in the consultation not be published; and</p> <p>(b) information subject to such a request is not to be published under this Part.</p>	Section 5 Stakeholder Consultation
Environmental assessment		
21(1)	<i>Description of the activity</i> The environment plan must contain a comprehensive description of the activity, including: <ul style="list-style-type: none"> • the location or locations of the activity • general details of the construction and layout of any facility or other structure • an outline of the operational details of the activity (for example, seismic surveys, exploration drilling or production) and proposed timetables • any additional information relevant to consideration of environmental impacts and risks of the activity. 	Section 3.3 Location Section 2.1.3 Description of Activities

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Reg.	Requirement	Relevant section in the EP
21(2)	<i>Description of the environment</i>	
	The environment plan must: <ul style="list-style-type: none"> describe the existing environment that may be affected by the activity include details of the particular relevant values and sensitivities (if any) of that environment. 	Section 4 Description of the Environment
21(4)	<i>Requirements</i>	
	The environment plan must: <ul style="list-style-type: none"> describe the requirements, including legislative requirements, that apply to the activity and are relevant to the environmental management of the activity demonstrate how those requirements will be met. 	Section 2 Environmental Legislation
21(5)	<i>Evaluation of environmental impacts and risks</i>	
	The environment plan must include: <ul style="list-style-type: none"> details of the environmental impacts and risks for the activity an evaluation of all the impacts and risks, appropriate to the nature and scale of each impact or risk details of the control measures that will be used to reduce the impacts and risks of the activity to as low as reasonably practicable and an acceptable level. 	Section 6 Environmental Risk Assessment Methodology
21(6)	To avoid doubt, the evaluation mentioned in paragraph (5)(b) must evaluate all the significant impacts and risks arising directly or indirectly from: <ul style="list-style-type: none"> all operations of the activity potential emergency conditions, whether resulting from accident or any other reason. 	Section 6 Environmental Risk Assessment Methodology
21(7)	<i>Environmental performance outcomes and standards</i>	
	The environment plan must: <ul style="list-style-type: none"> set environmental performance standards for the control measures identified under paragraph (5) set out the environmental performance outcomes against which the performance of the titleholder in protecting the environment is to be measured include measurement criteria that the titleholder will use to determine whether each environmental performance outcome and environmental performance standard is being met. 	Section 9 Environment Outcomes, Standards and Measurement Criteria
Implementation strategy for the environment plan		
22(1)	The environment plan must contain an implementation strategy for the activity in accordance with this regulation.	Section 10 Implementation Strategy

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Reg.	Requirement	Relevant section in the EP
22(2)	The implementation strategy must contain a description of the environmental management system for the activity, including specific measures to be used to ensure that, for the duration of the activity: <ul style="list-style-type: none"> the environmental impacts and risks of the activity continue to be identified and reduced to a level that is as low as reasonably practicable control measures detailed in the environment plan are effective in reducing the environmental impacts and risks of the activity to as low as reasonably practicable and an acceptable level environmental performance outcomes and standards set out in the environment plan are being met. 	Section 10.6 Auditing and Inspection
22(3)	The implementation strategy must establish a clear chain of command, setting out the roles and responsibilities of personnel in relation to the implementation, management, and review of the environment plan, including during emergencies or potential emergencies.	Section 10.2 Roles and Responsibilities
22(4)	The implementation strategy must include measures to ensure that each employee or contractor working on, or in connection with, the activity is aware of his or her responsibilities in relation to the environment plan, including during emergencies or potential emergencies, and has the appropriate competencies and training.	Section 10.2 Roles and Responsibilities
22(5)	The implementation strategy must provide for sufficient monitoring, recording, audit, management of non-conformance and review of the titleholder's environmental performance and the implementation strategy to ensure that the environmental performance outcomes and standards in the environment plan are being met.	Section 10.8 External Reporting Section 10.9 Internal Reporting Section 10.6 Auditing and Inspection Section 10.7 Non-Conformance, Corrective and Preventative Actions
22(6)	The implementation strategy must provide for sufficient monitoring of, and maintaining a quantitative record of, emissions and discharges (whether occurring during normal operations or otherwise), such that the record can be used to assess whether the environmental performance outcomes and standards in the environment plan are being met.	Section 10.5 Monitoring Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15)
22(7)	The implementation strategy must: <ul style="list-style-type: none"> state when the titleholder will report to the Regulator in relation to the titleholder's environmental performance for the activity provide that the interval between reports will not be more than one year. 	Section 10.8 External Reporting
22(8)	The implementation strategy must contain an oil pollution emergency plan and provide for the updating of the plan.	Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15)

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Reg.	Requirement	Relevant section in the EP
22(9)	<p>The oil pollution emergency plan must include adequate arrangements for responding to and monitoring oil pollution, including the following:</p> <ul style="list-style-type: none"> the control measures necessary for timely response to an emergency that results or may result in oil pollution the arrangements and capability that will be in place, for the duration of the activity, to ensure timely implementation of the control measures, including arrangements for ongoing maintenance of response capability the arrangements and capability that will be in place for monitoring the effectiveness of the control measures and ensuring that the environmental performance standards for the control measures are met the arrangements and capability in place for monitoring oil pollution to inform response activities. 	Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15)
22(10)	The implementation strategy must include arrangements for testing the response arrangements in the oil pollution emergency plan that are appropriate to the response arrangements and to the nature and scale of the risk of oil pollution for the activity.	Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15)
22(11)	The implementation strategy must include information demonstrating that the response arrangements in the oil pollution emergency plan are consistent with the national system for oil pollution preparedness and response.	Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15)
22(12)	The implementation strategy must include arrangements for testing the response arrangements in the oil pollution emergency plan. The testing arrangements must be appropriate to the response arrangements and to the nature and scale of the risk of oil pollution for the activity	Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15)
22(13)	<p>The arrangements for testing the response arrangements must include:</p> <ul style="list-style-type: none"> statement of the objectives of testing a proposed schedule of tests mechanisms to examine the effectiveness of response arrangements against the objectives of testing mechanisms to address recommendations arising from tests. 	Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15)

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Reg.	Requirement	Relevant section in the EP
22(14)	<p>The proposed schedule of tests must provide for:</p> <ul style="list-style-type: none"> • testing the response arrangements when they are introduced • testing the response arrangements when they are significantly amended • testing the response arrangements not later than 12 months after the most recent test • if a new location for the activity is added to the environment plan after the response arrangements have been tested, and before the next test is conducted – testing the response arrangements in relation to the new location as soon as practicable after it is added to the plan • if a facility becomes operational after the response arrangements have been tested and before the next test is conducted – testing the response arrangements in relation to the facility when it becomes operational. 	Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15)
22(15)	<p>The implementation strategy must provide for monitoring of impacts to the environment from oil pollution and response activities that:</p> <ul style="list-style-type: none"> • is appropriate to the nature and scale of the risk of environmental impacts for the activity • is sufficient to inform any remediation activities. 	Section 5.4 Ongoing Consultation
22(16)	The implementation strategy must comply with the Act, this instrument, any other regulations made under the Act, and any other environmental legislation applying to the activity.	Section 2
Details of titleholder and liaison person		
23(1)	<p>The environment plan must include the following details for the titleholder:</p> <ul style="list-style-type: none"> • name • business address • telephone number (if any) • fax number (if any) • email address (if any) • if the titleholder is a body corporate that has an Australian Company Number (within the meaning of the Corporations Act 2001) – Australian Company Number. 	Section 1.4 Details of Titleholder

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Reg.	Requirement	Relevant section in the EP
23(2)	The environment plan must also include the following details for the titleholder's nominated liaison person: <ul style="list-style-type: none"> • name • business address • telephone number (if any) • fax number (if any) • email address (if any). 	Section 1.4.1 Details of Liaison Person
23(3)	The environment plan must include arrangements for notifying the Regulator of a change in the titleholder, a change in the titleholder's nominated liaison person or a change in the contact details for either the titleholder or the liaison person.	Section 10 Implementation Strategy
Other information in the environment plan		
24	The environment plan must contain: <ul style="list-style-type: none"> • a statement of the titleholder's corporate environmental policy • a report on all consultations under section 25 of any relevant person by the titleholder, that contain: <ul style="list-style-type: none"> – a summary of each response made by a relevant person – an assessment of the merits of any objection or claim about the adverse impact of each activity to which the environment plan relates – a statement of the titleholder's response, or proposed response, if any, to each objection or claim – a copy of the full text of any response by a relevant person. • details of all reportable incidents in relation to the proposed activity. 	Appendix D Eni Health, Safety and Environment (HSE) Statement Section 5 Environment Plan Consultation
Revision of an environment plan		
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). <i>Note 1: This is subject to NOPSEMA's approval (see subsection 26(7)) and, if the new activity is, or is part of, an offshore project, the requirements of subsections 26(3) to (5).</i> <i>Note 2: It is an offence to undertake an activity under a title without an environment plan being in force for the activity (see section 17).</i>	Section 10.12 Management of Change and Reviews of this EP

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Reg.	Requirement	Relevant section in the EP
39(1)	A titleholder must submit to the Regulator a proposed revision of the environment plan for the activity before the commencement of any significant modification or new stage of the activity that is not provided for in the environment plan that is currently in force.	Section 10.12 Management of Change and Reviews of this EP
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.	Section 10.12 Management of Change and Reviews of this EP
39(3)	If: (a) there is a change in the titleholder of a title; and (b) the change will result in a change in the manner in which the environmental impacts and risks of an activity under the title are managed; the new titleholder must submit a revised environment plan for the activity under section 26 as soon as practicable after becoming the new titleholder.	Section 10.12 Management of Change and Reviews of this EP
Revision of an environment plan		
40	A titleholder must submit to the Regulator a proposed revision of the environment plan for an activity if the Regulator requests the titleholder to do so.	Section 10.12 Management of Change and Reviews of this EP

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2.1.2 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the primary Commonwealth environmental assessment legislation aimed at protecting and managing flora, fauna, ecological communities, environmentally sensitive and heritage places defined as MNES.

On 28 February 2014, NOPSEMA became the sole designated assessor of petroleum and greenhouse gas (GHG) activities in Commonwealth waters in accordance with the Minister for the Environment's endorsement of NOPSEMA's environmental authorisation process under Part 10, section 146 of the EPBC Act. All actions which are petroleum and GHG activities undertaken in Commonwealth waters in accordance with the OPGGS Regulations (noting exceptions for activities with extreme sensitivity, such as those in the Great Barrier Reef or Antarctica) have been deemed 'approved classes of actions' and do not require referral, assessment, and approval under the EPBC Act. Prior to the streamlining change in 2014, the Blacktip project received approval under the EPBC Act (EPBC 2003/1180) in 2008, and this approval continues to have effect (see Appendix A for approval decision). Table 2.2 presents the conditions of the EPBC approval and details how they have been met within this EP.




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Table 2.2: Environment Protection and Biodiversity Conservation conditions attached to EPBC 2003/1180 approval


Condition Number	Condition	Section
1	<p>The person taking the action must submit, for the Minister's approval, a plan for managing the impacts of construction. The plan must address:</p> <ul style="list-style-type: none"> a. design and construction of facilities to allow for the complete removal of all structures and components (except flowlines) above the sea floor b. sea floor surveys around the proposed flowline paths and well sites to identify sensitive marine ecosystems such as reefs, sponge beds and sea grasses and historic shipwrecks c. selection of flowline paths and well sites to avoid impacts on sensitive marine ecosystems referred to in 1.b. and historic shipwrecks d. a schedule of works e. managing the impacts on cetaceans, including interaction procedures for aircraft and supply and construction vessels that are consistent with Part 8 of the Environment Protection and Biodiversity Conservation Regulations 2000 f. ballast water management for international construction or tanker vessels arriving in Australia in accordance with Australian Quarantine and Inspection Service Australian Ballast Water Management Requirements. <p>Offshore construction may not commence until the plan is approved. The approved plan must be implemented.</p>	Not relevant. No offshore construction activities will be undertaken under this EP.

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Condition Number	Condition	Section
2	<p>The person taking the action must submit, for the Minister's approval, a plan for managing the offshore impacts of operation. The plan must address:</p> <ol style="list-style-type: none"> a. monitoring and disposal of produced water (PW), including: <ol style="list-style-type: none"> i. analysis of expected PW chemistry ii. baseline biological and physical information at the PW outfall site iii. toxic impacts of PW on marine fauna based on ecotoxicological, bioaccumulation and biodegradation studies iv. industry best practice disposal of PW v. monitoring and reporting of biological and physical indicators vi. contingency measures if adverse impacts occur. b. management of the collection, handling, and disposal of naturally occurring radioactive materials (NORMS) that may occur c. use and disposal of hydrotest water additives, based on modelling of the hydrotest water discharge plume d. use and disposal of drilling muds, including monitoring of water quality, in the event low toxicity, water-based drilling fluid additives cannot be used. <p>Operations may not commence until the plan is approved. The approved plan must be implemented.</p>	<p>Section 3.8.2 meets this condition for drilling muds.</p> <p>Disposal of PW is outside the scope of this EP.</p>
3	<p>The person taking the action must submit for the Minister's approval an oil spill contingency plan to mitigate the environmental effects of any hydrocarbon spills. The plan must identify oil-sensitive marine environments and biota, and address spill response and clean-up strategies, the equipment to be used and the capacity to maintain and implement rapid response equipment, the rehabilitation of impacted ecosystems, the training of staff in oil spill response measures and reporting of oil spill incidents to the Minister. The plan must include details of insurance arrangements that have been made in respect of the costs associated with repairing any environmental damage arising from potential oil spills.</p> <p>Offshore construction may not commence until the plan is approved. The approved plan must be implemented.</p>	<p>The Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15) is considered to meet this condition.</p>

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Condition Number	Condition	Section
4	<p>The person taking the action must submit, for the Minister's approval, a plan or plans to address measures for minimising the potential for listed threatened turtles to be impacted during the pipeline construction and for monitoring of the impacts on turtles. The plan or plans must address the impacts of onshore and near shore lighting, the construction, any seabed or onshore blasting required, and the rehabilitation of potential turtle habitat after construction.</p> <p>Onshore construction may not commence until the plan is approved. The approved plan must be implemented.</p>	Outside the scope of this EP.
5	<p>At least 12 months before the expiry of this approval, the person taking the action must submit a decommissioning plan to the Minister for approval, addressing the removal of all the structures and components above the sea floor.</p> <p>Decommissioning may not commence until the plan is approved. The approved plan must be implemented.</p>	Decommissioning is beyond the scope of this EP.
6	<p>On 1 July of each year, the person taking the action must provide a certificate stating they have complied with the conditions of this Approval.</p>	Annual Report to these conditions has been submitted.
7	<p>If the person taking the action wishes to perform any activity otherwise than in accordance with the plans referred to in conditions 1, 2, 3, 4 and 5, they may submit for the Minister's approval a revised version of any such plan. If the Minister approves a revised plan so submitted, the person taking the action must implement that plan instead of the plan as originally approved.</p>	Outside the scope of this EP.
8	<p>If the Minister believes it is necessary or desirable for the better protection of the environment to do so, the Minister may request they make specified revisions to a plan pursuant to conditions 1, 2, 3, 4 and 5 and to submit the revised plan for the Minister's approval. The person taking the action must comply with any such request. If the Minister approves a revised plan pursuant to this condition, the person taking the action must implement that plan instead of the plan as originally approved.</p>	Outside the scope of this EP.
9	<p>The person taking the action must ensure an independent audit of compliance with conditions of approval is conducted and a report submitted to the Minister within 12 months of the commencement of construction and within two years of commencement of operations. The independent auditor must be approved by the Minister and the audit report must address the criteria to the satisfaction of the Minister.</p>	Outside the scope of this EP.

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Where there is the potential for MNES to be impacted by petroleum activities, an assessment of impacts must be presented in the EP. MNES identified as relevant to the Blacktip drilling activities are:

- listed Threatened species and ecological communities
- listed Migratory species (protected under international agreements)
- Commonwealth marine environment
- world heritage properties
- national heritage places
- Ramsar wetlands.

Environmental values and sensitivities, including MNES, are described in Section 4. These descriptions inform the assessment of environmental impacts and risks in Sections 7 and 8.


Biologically important areas (BIAs) have been designed to support decision-making under the EPBC Act. They 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. BIAs have been referenced in Section 4.

2.1.2.1 Principles of Ecologically Sustainable Development

NOPSEMA also considers whether the petroleum activities are consistent with the principles of ecologically sustainable development (ESD), as defined in the EPBC Act. The principles of ESD include:

- Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations; the 'integration principle'.
- If there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation; the 'precautionary principle'.
- The present generation should ensure the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations; the 'intergenerational principle'.
- The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making; the 'biodiversity principle'.
- Improved valuation, pricing and incentive mechanisms should be promoted; the 'valuation principle'.

Eni has considered these principles when assessing environmental impacts and risks in Sections 7 and 8.

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2.1.2.2 Management Plans

Under the EPBC Act, listed Threatened species are managed through management plans, recovery plans and conservation advice. The purpose of these is summarised in Table 2.3.

Under s139(1)(b) of the EPBC Act, the Environment Minister must not act inconsistently with a recovery plan for a listed 'threatened' species or ecological community or a threat abatement plan for a species or community protected under the Act. Similarly, under s268 of the EPBC Act:

'A Commonwealth agency must not take any action that contravenes a recovery plan or a threat abatement plan.'

In relation to offshore petroleum activities in Commonwealth waters, these requirements are now administered by NOPSEMA in accordance with commitments set out in the plans. Recovery plans or threat abatement plans relevant to the scope of this EP have been identified as described in Table 2.3 and assessed in Sections 7 and 8.

Table 2.3: Summary of the purpose of management plans, recovery plans and conservation advice

Plan/Advice	Summary
Recovery plans	Recovery plans are intended to ensure the recovery of threatened species by setting recovery objectives. These objectives are informed by: <ul style="list-style-type: none"> descriptions of the state of the threatened species in Australia and globally identification of threats to the species identification of actions by which these threats may be mitigated, and the recovery objectives achieved.
Conservation advice	Conservation advice provide advice about relevant impacts and threats and set requirements for management and protection. This advice is developed in consultation with the Threatened Species Scientific Committee. Conservation advice: <ul style="list-style-type: none"> describes the threatened species, including its distribution, habitat and conservation status describes threats to the recovery of the species outlines research priorities and conservation actions to prevent further decline of the threatened species.
Wildlife conservation plans	Wildlife conservation plans may be made under the EPBC Act for the protection, conservation and management of species protected under the Act.
Threat abatement plans	Threat abatement plans may be made under the EPBC Act for threatening processes on native species and ecological communities. The plans describe objectives for the mitigation of threatening processes and the actions intended to achieve the objectives.




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Table 2.4: Summary of additional environment protection and biodiversity conservation management and recovery plans and conservation advice relevant to the Blacktip drilling activities

Species	Plan or Advice	Protection under EPBC Act	Relevant key threats identified	Relevant objectives	Relevant conservation actions
Vertebrates					
All vertebrate fauna	Threat abatement plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans (Commonwealth of Australia, 2018)	N/A	Marine debris	Objectives: <ul style="list-style-type: none"> Contribute to long-term prevention of the incidence of marine debris. Understand the scale of impacts from marine plastic and microplastic on key species, ecological communities and locations. Remove existing marine debris. 	No explicit management actions for non-fisheries-related industries; note that management actions in the plan relate largely to management of fishing waste (e.g., 'ghost' gear), and State and Commonwealth management through regulation.
Marine Mammals					
Blue whale (includes pygmy blue whale)	Conservation Management Plan for the Blue Whale 2015-2025 (Commonwealth of Australia, 2015a)	Endangered	Noise interference	The long-term recovery objective is to minimise anthropogenic threats to allow the conservation status of the blue whale to improve so that it can be removed from the threatened species list under the EPBC Act.	A.2: Assessing and addressing anthropogenic noise: Assess the effect of anthropogenic noise on blue whale behaviour.
			Vessel disturbance		Action Area A.3: Anthropogenic noise in biologically important areas will be managed such that any blue whale continues to utilise the area without injury.
			Climate variability and change		A.4: Minimising vessel collisions: <ul style="list-style-type: none"> Ensure the risk of vessel strikes on blue whales is considered when assessing actions that increase vessel traffic in areas where blue whales occur and, if required, appropriate mitigation measures are implemented. Understanding impacts of climate variability and change: <ul style="list-style-type: none"> Continue to meet Australia's international commitments to reduce GHG emissions and regulate the krill fishery in Antarctica.
Sei whale	Approved Conservation Advice for <i>Balaenoptera borealis</i> (Sei Whale)	Vulnerable	Noise interference	No explicit relevant objectives.	Assess and manage acoustic disturbance.
			Vessel disturbance		Minimising vessel collisions: <ul style="list-style-type: none"> Develop a national vessel strike strategy that investigates the risk of vessel strikes on sei whales and also identifies potential mitigation measures. Ensure all vessel strike incidents are reported in the National Vessel Strike Database.
			Climate and oceanographic variability and change		Understanding impacts of climate variability and change: <ul style="list-style-type: none"> Continue to meet Australia's international commitments to reduce GHG emissions and regulate the krill fishery in Antarctica.
			Pollution (persistent toxic pollutants)		No explicit relevant management actions. Pollution identified as a threat.
Fin whale	Approved Conservation Advice for <i>Balaenoptera physalus</i> (Fin Whale)	Vulnerable	Noise interference	No explicit relevant objectives.	Once the spatial and temporal distribution (including BIAs) of fin whales is further defined, assess the impacts of increasing anthropogenic noise (including seismic surveys, port expansion and coastal development).

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Species	Plan or Advice	Protection under EPBC Act	Relevant key threats identified	Relevant objectives	Relevant conservation actions
			Vessel disturbance		Minimising vessel collisions: <ul style="list-style-type: none"> Develop a national vessel strike strategy that investigates the risk of vessel strikes on fin whales and also identifies potential mitigation measures. Ensure all vessel strike incidents are reported in the National Vessel Strike Database.
			Climate and oceanographic variability and change		Understanding impacts of climate variability and change: <ul style="list-style-type: none"> Continue to meet Australia's international commitments to reduce GHG emissions and regulate the krill fishery in Antarctica.
			Pollution (persistent toxic pollutants)		No explicit relevant management actions. Pollution identified as a threat.
Humpback whale	Approved Conservation Advice for <i>Megaptera novaeangliae</i> (Humpback Whale)	Vulnerable	Noise interference	No explicit relevant objectives.	For actions involving acoustic impacts (for example, pile driving, explosives) on humpback whale calving, resting, feeding areas, or confined migratory pathways, undertake site-specific acoustic modelling (including cumulative noise impacts).
			Vessel disturbance		Minimising vessel collisions: <ul style="list-style-type: none"> Ensure the risk of vessel strike on humpback whales is considered when assessing actions that increase vessel traffic in areas where humpback whales occur and, if required, appropriate mitigation measures are implemented to reduce the risk of vessel strike. Maximise the likelihood that all vessel strike incidents are reported in the National Ship Strike Database.
			Climate and oceanographic variability and change		Understanding impacts of climate variability and change: <ul style="list-style-type: none"> Continue to meet Australia's international commitments to reduce GHG emissions and regulate the krill fishery in Antarctica.
Marine Reptiles					
Loggerhead, hawksbill, green, olive ridley, flatback and leatherback turtles	Recovery plan for Marine Turtles in Australia (Commonwealth of Australia, 2017b)	Endangered (loggerhead, leatherback, olive ridley turtles) Vulnerable (green, hawksbill, flatback turtles)	Marine debris	Long-term recovery objective: <ul style="list-style-type: none"> Minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so they can be removed from the EPBC Act threatened species list. Interim objective 3: <ul style="list-style-type: none"> Anthropogenic threats are demonstrably minimised. 	Action Area A3: Reduce the impacts from marine debris: <ul style="list-style-type: none"> Understand the threat posed by marine debris. Determine the extent to which marine debris is impacting turtles.
			Chemical and terrestrial discharge		Action Area A4: Minimise chemical and terrestrial discharge: <ul style="list-style-type: none"> Ensure spill risk strategies and response programs adequately include management for marine turtles and their habitats, particularly in reference to 'slow to recover habitats', such as nesting habitat, seagrass meadows or coral reefs.
			Light pollution		Action Area A8: Minimise light pollution: <ul style="list-style-type: none"> Artificial light within or adjacent to habitat critical to the survival of marine turtles will be managed such that marine turtles are not displaced from these habitats.

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Species	Plan or Advice	Protection under EPBC Act	Relevant key threats identified	Relevant objectives	Relevant conservation actions
			Vessel disturbance		Vessel interactions identified as a threat; no specific management actions in relation to vessels prescribed in the plan.
Leatherback turtle	Approved Conservation Advice for <i>Dermochelys coriacea</i> (Leatherback Turtle)	Endangered	Vessel disturbance	No explicit relevant objectives.	No explicit relevant management actions; only vessel strikes identified as a threat.
			Marine debris		No explicit relevant management actions; marine debris identified as a threat.
			Climate change		No explicit relevant management actions; only climate change identified as a threat.
Short-nosed sea snake	Approved Conservation Advice on <i>Aipysurus apraefrontalis</i> (Short-Nosed Sea Snake)	Critically Endangered	Habitat degradation or modification	No explicit relevant objectives.	Ensure there is no anthropogenic disturbance in areas where the short-nosed sea snake occurs, excluding necessary actions to manage the conservation of the species.
Leaf-scaled sea snake	Approved Conservation Advice on <i>Aipysurus foliosquama</i> (Leaf-Scaled Sea Snake)	Critically Endangered	Habitat degradation or modification	No explicit relevant objectives.	Ensure there is no disturbance in areas where the leaf-scaled sea snake occurs, excluding necessary actions to manage the conservation of the species.
Fish, sharks, and rays					
All sawfish and river sharks	Sawfish and River Shark Multispecies Recovery Plan (Commonwealth of Australia, 2015b)	NA	Habitat degradation or modification	<p>The primary objective of this recovery plan is to assist the recovery of sawfish and river sharks in Australian waters with a view to:</p> <ul style="list-style-type: none"> improving the population status, leading to the removal of the sawfish and river shark species from the threatened species list of the EPBC Act ensuring anthropogenic activities do not hinder recovery in the near future, or impact on the conservation status of the species in the future. <p>The specific objectives of the recovery plan (relevant to industry) are:</p> <ul style="list-style-type: none"> Objective 5: Reduce and, where possible, eliminate adverse impacts of habitat degradation and modification on sawfish and river shark species. Objective 6: Reduce and, where possible, eliminate any adverse impacts of marine debris on sawfish and river shark species noting the linkages with the Threat Abatement Plan for the Impact of Marine Debris on Vertebrate Marine Life. 	Objective 5: Reduce and, where possible, eliminate adverse impacts of habitat degradation and modification on sawfish and river shark species.
			Marine debris		Objective 6: Reduce and, where possible, eliminate any adverse impacts of marine debris on sawfish and river shark species.
Dwarf sawfish	Approved Conservation Advice for <i>Pristis clavate</i> (Dwarf Sawfish)	Vulnerable	Habitat degradation or modification		No explicit relevant management actions. Habitat loss, disturbance and modification identified as threats.
Green sawfish	Approved Conservation Advice for Green Sawfish	Vulnerable	Habitat degradation or modification		No explicit relevant management actions. Habitat loss, disturbance and modification identified as threats.
Freshwater sawfish	Approved Conservation Advice for <i>Pristis pristis</i> (Large-Tooth Sawfish)	Vulnerable	Habitat degradation or modification		No explicit relevant management actions. Habitat loss, disturbance and modification identified as threats.
Northern river shark	Approved Conservation Advice for <i>Glyphis garricki</i> (Northern River Shark)	Endangered	Habitat degradation or modification		No explicit relevant management actions. Habitat loss, disturbance and modification identified as threats.
Great white shark	Recovery Plan for the White Shark (<i>Carcharodon carcharias</i>) (Commonwealth of Australia, 2013)	Vulnerable	Habitat modification Climate change	<p>The primary objective of this recovery plan is to assist the recovery of the great white shark in Australian waters with a view to:</p> <ul style="list-style-type: none"> improving the population status leading to the removal of the great white shark species from the threatened species list of the EPBC Act ensuring anthropogenic activities do not hinder recovery in the near future, or impact on the conservation status of the species in the future. 	<p>Ensure anthropogenic activities do not hinder recovery of the species in the near future or impact on the conservation status of the species in the future.</p> <p>No explicit relevant management actions. Ecosystem effects as a result of habitat modification and climate change identified as threats.</p>

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Species	Plan or Advice	Protection under EPBC Act	Relevant key threats identified	Relevant objectives	Relevant conservation actions
Grey nurse shark	Recovery Plan for the Grey Nurse Shark (<i>Carcharias taurus</i>) (Commonwealth of Australia, 2014)	Vulnerable	Pollution and disease	The primary objective of this recovery plan is to assist the recovery of the grey nurse shark in Australian waters with a view to: <ul style="list-style-type: none"> improving the population status leading to the removal of the grey nurse shark species from the threatened species list of the EPBC Act ensuring anthropogenic activities do not hinder recovery in the near future, or impact on the conservation status of the species in the future. 	No explicit relevant management actions. Pollution and disease and ecosystem effects as a result of habitat modification and climate change identified as threats.
Spertooth shark	Approved Conservation Advice for <i>Glyphis glyphis</i> (Spertooth Shark)	Critically Endangered	Habitat degradation or modification	No explicit relevant objectives.	Implement measures to reduce adverse impacts of habitat degradation or modification.
Whale shark	Approved Conservation Advice for <i>Rhincodon typus</i> (Whale Shark)	Vulnerable	Vessel disturbance	To maintain existing levels of protection for the whale shark in Australia while working to increase the level of protection afforded to the whale shark within the Indian Ocean and Southeast Asia region to enable population growth so that the species can be removed from the threatened species list of the EPBC Act.	Minimise offshore developments and transit time of large vessels in areas close to marine features likely to correlate with whale shark aggregations along the northward migration route that follows the northern Western Australian coastline along the 200m isobath (as set out in the Conservation Values Atlas, DoE, 2014).
			Habitat degradation or modification		Implement measures to reduce adverse impacts of habitat degradation or modification.
			Marine debris		No explicit relevant management actions. Marine debris identified as a threat.
			Climate change		No explicit relevant management actions. Climate change identified as a threat.
Seabirds and shorebirds					
Seabirds	Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2020)	NA	Habitat loss or modification	Seabirds and their habitats are protected and managed in Australia.	No explicit relevant management actions. Habitat loss or modification identified as a threat.
			Anthropogenic disturbance		2d. Ensure all areas of important habitat for seabirds are considered in the development assessment process. 2e. Manage the effects of anthropogenic disturbance to seabird breeding and roosting areas.
			Climate change		No explicit relevant management actions. Climate change identified as a threat.
			Invasive species		2f. Ensure seabirds are protected from the adverse effects of invasive species.
			Pollution (marine debris, light, water)		2h. Enhance contingency plans to prevent and respond to environmental emergencies that have an impact on seabirds and their habitats.
			Resource extraction		No explicit relevant management actions. Resource extraction identified as a threat. Noted that seabirds are known to aggregate around oil and gas platforms in above-average numbers due to night lighting and other visual cues.
Migratory shorebirds	Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2015c)	NA	Habitat loss or modification	Anthropogenic threats to migratory shorebirds in Australia are minimised or, where possible, eliminated.	No explicit relevant management actions. Habitat loss or modification identified as a threat.
			Anthropogenic disturbance		3c. Investigate the significance of cumulative impacts on Migratory shorebird habitat and populations in Australia. 3f. Ensure all areas important to Migratory shorebirds in Australia continue to be considered in development

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Species	Plan or Advice	Protection under EPBC Act	Relevant key threats identified	Relevant objectives	Relevant conservation actions
			Climate change		assessment processes, specifically for coastal developments. 3b: Investigate the impacts of climate change on Migratory shorebird habitat and populations in Australia.
Curlew sandpiper	Approved Conservation Advice for <i>Calidris ferruginea</i> (Curlew Sandpiper)	Critically Endangered	Habitat degradation or modification (oil pollution)	Australian objective: • Disturbance at key roosting and feeding sites reduced.	No explicit relevant management actions. Oil pollution recognised as a threat.
Eastern curlew	Approved Conservation Advice for <i>Numenius madagascariensis</i> (Eastern Curlew)	Critically Endangered	Habitat loss, disturbance and modification	Australian objective: • Disturbance at key roosting and feeding sites reduced.	Manage disturbance at important sites when the species is present.
Red knot	Approved Conservation Advice for <i>Calidris canutus</i> (Red Knot)	Endangered	Habitat degradation or modification Climate change	No explicit relevant objectives.	No explicit relevant management actions. Oil pollution and climate change recognised as a threat.
Northern Siberian bar-tailed godwit	Conservation Advice <i>Limosa lapponica menzbieri</i> (Bar-Tailed Godwit (Northern Siberian))	Critically Endangered	Habitat degradation or modification	No explicit relevant objectives.	No explicit relevant management actions. Oil spills recognised as a threat.
Abbott's booby	Conservation Advice for the Abbott's Booby – <i>Papasula abbotti</i>	Endangered	Habitat degradation or modification Climate change – severe storm events and prey depletion	No explicit relevant objectives.	No explicit relevant management actions. Oil spills recognised as a threat. No explicit relevant management actions. Climate change recognised as a threat.
Australian painted snipe	Approved conservation advice for <i>Rostratula australis</i>	Endangered	Habitat degradation or modification	No explicit relevant objectives.	No explicit relevant management actions. Habitat loss or modification identified as a threat.

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2.1.2.3 Australian Marine Parks

Under the EPBC Act, Australian Marine Parks (AMPs) are declared in Commonwealth waters based on the International Union for the Conservation of Nature (IUCN) principles and guidelines for categorising protected areas. These AMPs are declared for the purpose of conserving marine habitats and the species that live and rely on these habitats. AMPs are managed under a series of region-based management plans, which detail the management objectives of the AMP, the environmental values within each of the AMPs, and the activities that are permissible within the zones of the AMP.

The EPBC Act allows AMPs to be divided into zones and a category assigned to each, which may differ from the overall category of the AMP. The EPBC Regulations prescribe the Australian IUCN Reserve Management Principles (Environment Australia, 2002) applicable to each category. All activities undertaken within an AMP must be consistent with the objectives of the zone and the values of the AMP (DNP, 2018a), being:

- Special Purpose Zone (IUCN category VI) – to provide for ecologically sustainable use and the conservation of ecosystems, habitats and native species, while applying special-purpose management arrangements for specific activities
- Multiple Use Zone (IUCN category VI) – to provide for ecologically sustainable use and the conservation of ecosystems, habitats and native species
- Habitat Protection Zone (IUCN category IV) – to provide for the conservation of ecosystems, habitats and native species in as natural a state as possible, while allowing activities that do not harm or cause destruction to seafloor habitats
- National Park Zone (IUCN category II) – to provide for the protection and conservation of ecosystems, habitats and native species in as natural a state as possible.


Zoning takes into account the purposes for which the AMP was declared, the objectives of the region-based management plan, and the requirements of the EPBC Act and EPBC Regulations.

AMPs relevant to the Blacktip drilling activity are described in detail in Section 4.5.1.

2.1.2.4 Australian Whale Sanctuary

The Australian Whale Sanctuary has been established to protect all whales and dolphins found in Australian waters. The Australian Whale Sanctuary comprises the Commonwealth marine area, beyond the coastal waters of each state and the NT. It includes all of Australia's Exclusive Economic Zone, from 3nm extending 200nm from the coast. Under the EPBC Act, all cetaceans – whales, dolphins and porpoises – are protected in Australian waters: In summary:

- The Australian Whale Sanctuary includes all Commonwealth waters from the 3nm state waters limit out to the boundary of the Exclusive Economic Zone; as in, out to 200nm and further in some places.
- Within the Australian Whale Sanctuary, it is an offence to kill, injure or interfere with a cetacean. Severe penalties apply to anyone convicted of such offences.

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2.1.3 Additional Relevant Commonwealth Legislation

In addition to the OPGGS Act and EPBC Act, other Commonwealth legislation relevant to the Blacktip drilling is as listed in Table 2.5.




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Table 2.5: Additional commonwealth legislation relevant to the Blacktip drilling


Legislation	Summary	Relevance to the Blacktip drilling
<i>Air Navigation Act 1920</i>	This Act is responsible for managing navigation within the avian environment.	Helicopter and other aircraft activities operating under the Blacktip drilling scope are required to abide by the requirements under this Act.
<i>Australian Heritage Council Act 2003</i>	The Act categorises and safeguards areas that hold significance in terms of heritage, which encompasses locations listed on the Commonwealth Heritage, World Heritage and National Heritage Lists.	This Act applies to any activities that may occur within areas that may have associated heritage values. Heritage values protected under the Act that may be impacted by the Blacktip drilling have been identified in Section 4.6. No impacts to heritage values will occur as a result of the planned operational activities.
<i>Australian Maritime Safety Authority Act 1990</i>	This Act facilitates international cooperation and mutual assistance in preparing and responding to major oil spill incidents and encourages countries to develop and maintain adequate capability to deal with oil pollution emergencies. The Act applies to offshore petroleum activities that have the potential to affect maritime safety or result in environmental damage, including pollution associated with the operation of vessels. Requirements are implemented through the Australian Maritime Safety Authority (AMSA). AMSA is the designated authority for applying the Act.	All vessels and facilities undertaking activities within the scope of the Blacktip drilling will comply with the requirements of the Act.
Biosecurity Act 2015	This Act is the primary legislation for managing the risk of diseases and pests that may cause harm to human, animal or plant health, the environment and the economy. The Act manages biosecurity risks, risks related to ballast water, and requires operators of all the vessels to provide information about biofouling management practices before arriving in Australia.	The Act regulates the condition of vessels entering Australian waters regarding biosecurity. All vessels undertaking Blacktip drilling will comply with the requirements of the Act.

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Legislation	Summary	Relevance to the Blacktip drilling
Environment Protection and Biodiversity Conservation Regulations 2000: 8.1	These regulations provide guidelines for operating aircraft and vessels in the vicinity of cetaceans.	All vessels and aircraft undertaking Blacktip drilling activities will comply with the requirements of the Act. The requirements are detailed in the Australian National guidelines for whale and dolphin watching (Commonwealth of Australia, 2017d). Section 4.4 details cetaceans relevant to Blacktip drilling.
<i>Hazardous Waste (Regulation of Exports and Imports) Act 1989</i>	This Act regulates the export, import and transit of hazardous waste to ensure hazardous waste is dealt with appropriately so human beings and the environment, both within and outside Australia, are protected from the harmful effects of the waste. The Act requires that a permit be obtained before hazardous waste is exported from Australia or imported into Australia. The Act gives effect to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 1972 (commonly referred to as the Basel Convention).	Import, export, and transport of hazardous waste required for Blacktip drilling will comply with the requirements of the Act.
National Environment Protection (National Pollutant Inventory) Measure 1998 (established under the <i>National Environment Protection Council Act 1994</i>)	This Act aims to implement national environment protection matters to enhance, restore and protect the Australian environment. The Measure provides the framework for developing and establishing the National Pollutant Inventory, which is an internet database designed to provide publicly available information about the types, and amount of certain substances being emitted to the air, land and water.	Reporting requirements for the Blacktip drilling will comply with the National Environment Protection Measure through routine reporting of the relevant National Pollutant Inventory Substances.

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Legislation	Summary	Relevance to the Blacktip drilling
<p><i>National Greenhouse and Energy Reporting Act 2007</i></p>	<p>This Act provides a national framework for reporting and distributing information related to GHG emissions, GHG projects, energy production and energy consumption.</p> <p>The Act includes National Greenhouse and Energy Reporting (NGER) requirements and the Safeguard Mechanism requirements.</p> <p>Australia has ratified the Paris Agreement and has set a target to reduce emissions by 43% below 2005 levels by 2030. The primary policy mechanisms to implement this target, and therefore Australia's current commitments under the Paris Agreement, are the National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015 (Cth) (the Safeguard Mechanism) made under the NGERS Act and administered by the Clean Energy Regulator. The recently released National Greenhouse and Energy Reporting (Safeguard Mechanism) Amendment (Reform) Rules 2023 provides further clarity for emission reporting.</p>	<p>Reporting requirements for GHG emissions associated with Blacktip drilling will comply with the reporting requirements of the Act, including the NGER requirements.</p> <p>While outside the scope of this EP, the Blacktip operations scope will be operated under the Australian emissions policy in the framework of the Safeguard Mechanism, which places a cap (baseline) on both the onshore and offshore Scope 1 emissions. Under this policy, annual emissions are compared against the facility's baseline, and Eni is obliged to purchase and/or surrender Safeguard mechanism credits (or Australian carbon credit units) for any Scope 1 emissions exceeding the baseline for the relevant financial year. The revised Safeguard Mechanism came into effect on 1 July 2023 and includes a Decline Rate curve to bring all Scope 1 emissions of the sector to net zero by 2050.</p>

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Legislation	Summary	Relevance to the Blacktip drilling
<i>Navigation Act 2012</i>	<p>This Act and subsidiary Marine Orders reduce the risk of accidents and unplanned interactions with other users of the marine environment. The Act reflects changes in the maritime sector and is the primary legislative means for the Australian Government to regulate international ship and seafarer safety, shipping aspects of protecting the marine environment, and the actions of seafarers in Australian waters. The Act also gives effect to the relevant international conventions (through Marine Orders) to which Australia is a signatory, including the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), the International Regulations for Preventing Collisions at Sea 1972, and the International Convention for the Safety of Life at Sea 1974.</p> <p>Marine Orders that relate to petroleum activities include:</p> <ul style="list-style-type: none"> • Marine Order Part 21: Safety of navigation and emergency procedures • Marine Order Part 30: Prevention of collisions • Marine Order Part 59: Offshore industry vessel operations. 	All vessels undertaking Blacktip drilling activities will comply with the requirements of the Act and subsidiary Marine Orders.
<i>Protection of the Sea (Harmful Antifouling Systems) Act 2006</i>	<p>This Act and subsidiary Marine Order aim to protect the marine environment from the effects of harmful anti-fouling systems. Under the Act, the negligent application of a harmful antifouling compound to a ship by a person or persons is an offence.</p> <p>The Act also requires that all Australian ships must hold 'antifouling certificates', providing they meet specific criteria.</p> <p>The marine order that relates to petroleum activities is:</p> <ul style="list-style-type: none"> • Marine Order 98: Marine pollution – anti-fouling systems. 	All vessels undertaking Blacktip drilling activities will comply with the requirements of the Act and subsidiary Marine Orders. Where relevant, the vessels will hold anti-fouling certificates.

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Legislation	Summary	Relevance to the Blacktip drilling
<i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i>	<p>This Act regulates Australian regulated vessels with respect to ship-related operational activities, including discharges that may result in pollution to the marine environment.</p> <p>The Act and subsidiary Marine Orders enact the International Convention for the Prevention of Pollution from Ships 1973 as modified by the protocol of 1978, commonly referred to as the MARPOL 73/78 convention.</p> <p>This Act requires ships greater than 400 gross tonnes to have in place pollution emergency plans, and provides for emergency discharges from ships.</p> <p>It includes the requirement for an approved Shipboard OPEP (SOPEP) or Shipboard Marine Pollution Emergency Plan – or equivalent, according to class – that describes emergency response activities.</p> <p>Marine Orders that relate to petroleum activities include:</p> <ul style="list-style-type: none"> • Marine Order 91: Marine pollution prevention – oil • Marine Order 93: Marine pollution prevention – noxious liquid substances • Marine Order 94: Marine pollution prevention – packaged harmful substances • Marine Order 95: Marine pollution prevention – garbage • Marine Order 96: Marine pollution prevention – sewage • Marine Order 97: Marine pollution prevention – air pollution. 	All vessels undertaking Blacktip drilling activities will comply with the requirements of the Act and subsidiary Marine Orders.
<i>Underwater Cultural Heritage Act 2019</i>	<p>This Act protects the heritage values of shipwrecks, sunken aircraft and relics (older than 75 years) in Australian Territorial waters from the low water mark to the outer edge of the continental shelf (excluding the State’s internal waterways). The Act allows for protection by designating protection zones. Activities/conduct prohibited within each zone will be specified.</p>	<p>The Blacktip drilling will be undertaken to ensure there is no impact upon cultural heritage properties protected under the Act.</p> <p>There are no known cultural heritage sites of significance or shipwreck sites within the Operational Area.</p>


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2.2 Commonwealth Guidelines and Policies


While guidelines do not typically have force under legislation, they are often considered to be consistent with good practice. Table 2.6 summarises the Commonwealth policies and guidelines that are relevant to the Blacktip drilling.

Table 2.6: Summary of Commonwealth guidelines and policies relevant to the Blacktip drilling


Policies and guidelines	Summary	Relevance to the Blacktip drilling
Australian Energy Producers (AEP) Code of Environmental Practice 2008 (AEP, 2008)	Management system and a comprehensive list of environmental guidelines for the petroleum industry. Provides guidelines for activities that are not formally regulated and have evolved from the collective knowledge and experience of the oil and gas industry.	The EP has been developed considering the AEP Code of Environmental Practice 2008.
Australian and New Zealand guidelines for fresh and marine water quality (Commonwealth of Australia and New Zealand Government, 2018)	Provides guidelines and a comprehensive set of tools for assessing and managing ambient water and sediment quality.	Where relevant, changes to water and sediment quality will be assessed using the methods and guideline concentrations for toxicants in the guideline.
Australian Ballast Water Management Requirements (DAWE, 2020).	Provides requirements for management measures to reduce the risk of introducing harmful aquatic organisms into Australia's marine environment through ships ballast water.	All vessels undertaking Blacktip drilling activities will be required to comply with the requirements.
National biofouling management guidelines for the petroleum production and exploration industry (Marine Pest Sectoral Committee, 2018).	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, thereby minimising the risk of spreading marine pests.	All vessels undertaking Blacktip drilling activities will implement effective biofouling controls as a best practice.
National Light Pollution Guidelines for Wildlife (Commonwealth of Australia, 2023)	The guidelines provide best-practice industry standard for managing potential impacts of light pollution on marine fauna.	National Light Pollution Guidelines for Wildlife are used when assessing the relevant mitigation controls to apply to the Blacktip drilling light emissions.

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Policies and guidelines	Summary	Relevance to the Blacktip drilling
NOPSEMA Bulletins – Oil Spill Modelling (NOPSEMA, 2019)	Provides advice relating to applying oil spill modelling to support risk evaluations.	The spill modelling and associated outputs have been developed in accordance with the guidance note.
NOPSEMA Policy – Section 572 Maintenance and removal of property (NOPSEMA, 2020a)	Outlines NOPSEMA’s expectations on maintaining and removing property.	Decommissioning of Blacktip facilities is not included within the scope of this EP. While outside the scope of this EP, decommissioning and removal of the Blacktip infrastructure have been designed and selected to meet the regulatory base case for full removal.
NOPSEMA Information paper – Reducing marine pest biosecurity risks through good practice biofouling management (NOPSEMA, 2021)	Provides advice that is consistent with the expectations of all jurisdictions responsible for regulating biofouling management within the Australian marine environment. Also clarifies biosecurity requirements relevant to offshore activities.	Blacktip drilling will comply with the relevant biosecurity requirements, including adopting requirements that may apply to the movement of vessels into and between Commonwealth and State jurisdiction.
NOPSEMA Guidance Note: Petroleum activities and Australian Marine Parks (NOPSEMA, 2020b)	Provides guidance on managing petroleum activities risks and impacts to Australian Marine Parks and to support consultation with the Director of National Parks (DNP).	The GEP, CEP and SPM are located in the Joseph Bonaparte Gulf AMP. The guidance has been used when consulting the relevant persons (Section 5).
NOPSEMA Guideline: Consultation in the course of preparing an environment plan (NOPSEMA, 2023)	Provides guidance on consultation for Eps. This guideline is used to develop processes for implementing consultation. The guideline focuses on the instructive reasons given by the Full Federal Court of Australia, in its appeal decision Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 (appeal decision) on 2 December 2022.	The guidance has been used when consulting the relevant persons (Section 5).
NOPSEMA Guideline: Consultation with Commonwealth agencies with responsibilities in the marine area (NOPSEMA, 2022a)	Provides guidance on consultation for Eps, specifically Australian Government agencies with responsibilities in the Commonwealth marine area.	The guidance has been used when consulting the relevant persons (Section 5).

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Policies and guidelines	Summary	Relevance to the Blacktip drilling
NOPSEMA Guidance Note: Responding to public comment on environment plans (NOPSEMA, 2022b)	Provides guidance on consultation for Eps. The guidance reflects NOPSEMA's interpretation of the requirements of the OPGGS Regulations.	The guidance has been used when consulting the relevant persons (Section 5).
Offshore Installations – Biosecurity Guide (Department of Agriculture and Water Resources, 2020)	Provides the offshore petroleum industry with guidance about Australian biosecurity requirements.	All Blacktip drilling vessels implement effective biosecurity controls, in accordance with the requirements of this biosecurity guideline.
Offshore Petroleum Decommissioning Guideline (Department of Industry, Science and Resources, 2022)	Provides a decommissioning guideline and confirms the Australian Government's policy expectation that removing property is the 'base case' or default decommissioning requirement. Assists the offshore petroleum industry in planning and seeking the regulatory approvals necessary to undertake a decommissioning project, and to understand the expectations of relevant decision-makers.	Decommissioning of Blacktip facilities is not included within the scope of this EP. While outside the scope of this EP, decommissioning and removal of the Blacktip infrastructure have been designed and selected to meet the regulatory base case for full removal.


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2.3 International Agreements


International agreements and conventions that are relevant to the Blacktip drilling activities are summarised in Table 2.7.

Table 2.7: Applicable international agreements and conventions

International Agreements and Conventions	Summary
Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds in Danger of Extinction and their Environment 1974, commonly referred to as JAMBA	<p>These agreements recognise international concern for protecting migratory birds and birds in danger of extinction.</p> <p>The EPBC Act gives effect to the agreement by listing migratory birds recognised by it. Migratory species are MNES.</p>
Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment 1986, commonly referred to as CAMBA	<p>These agreements recognise international concern for protecting migratory birds and birds in danger of extinction.</p> <p>The EPBC Act gives effect to the agreement by listing migratory birds recognised by it. Migratory species are MNES.</p>
Convention on the Conservation of Migratory Species of Wild Animals 1979 (Bonn Convention)	<p>This convention aims to improve the status of all migratory species by national action and international agreements between range states.</p> <p>The EPBC Act gives effect to the Bonn Convention through listing species as Migratory under Part 3 of the Act. Migratory species are MNES.</p>
Convention on Wetlands of International Importance (Ramsar Convention)	<p>The Ramsar Convention provides for conserving and sustainably using wetlands.</p> <p>The EPBC Act gives effect to the Ramsar Convention by providing specific protection for wetlands recognised by the Convention under Part 3 of the EPBC Act.</p>
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (known as the London Convention and more recently, the London Protocol)	<p>The London Convention contributes to the international control and prevention of marine pollution by prohibiting the dumping of certain hazardous materials.</p> <p>The <i>Environment Protection (Sea Dumping) Act 1981</i> gives effect to the London Protocol.</p>
Convention for the Prevention of Pollution from Ships 1973/1978 (MARPOL 73/78)	<p>This convention aims to preserve the marine environment by eliminating completely pollution by oil and other harmful substances and by minimising accidental discharge of such substances.</p> <p>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.</p>

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International Agreements and Conventions	Summary
Convention on Biological Diversity 1992	This convention aims to conserve biological diversity, sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.
Convention on Oil Pollution Preparedness, Response and Co-operation 1990 (OPRC 90)	This convention establishes national arrangements for responding to oil pollution incidents from ships, offshore oil facilities, seaports and oil handling. The convention recognises that in the event of a pollution incident, prompt and effective action is essential.
Convention for the Prevention of Pollution from Ships 1973/1978 (MARPOL 73/78)	This convention aims to preserve the marine environment by completely eliminating pollution by oil and other harmful substances and by minimising accidental discharge of such substances. 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.
International Convention for the Control and Management of Ships Ballast Water and Sediment 2004	This convention aims to prevent the spread of harmful aquatic organisms from one region to another via ballast water and sediment. The <i>Biosecurity Act 2015</i> gives effect to the convention.
International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978	This convention sets out minimum standards for masters, officers and watch personnel on merchant vessels. The <i>Navigation Act 2012</i> and subsidiary Marine Orders give effect to the convention.
International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978	This convention sets out minimum standards for masters, officers and watch personnel on merchant vessels. The <i>Navigation Act 2012</i> and subsidiary Marine Orders give effect to the convention.
International Convention for the Safety of Life at Sea 1974	This convention sets out minimum standards for constructing, equipping and operating merchant ships. The convention requires signatory flag states to ensure the ships flagged by them comply with these standards as a minimum. The <i>Navigation Act 2012</i> and subsidiary Marine Orders give effect to the convention.
International Regulations for Preventing Collisions at Sea 1972	These regulations outline internationally recognised navigation rules to be used by vessels at sea to avoid collisions. The regulations are published by the International Maritime Organization (IMO). The <i>Navigation Act 2012</i> and subsidiary Marine Orders give effect to the regulations.
International Convention on Civil Liability for Oil Pollution Damage 1969	The Civil Liability Convention ensures adequate compensation is available to persons who suffer oil pollution damage resulting from maritime casualties involving oil-carrying ships by placing liability for such damage on the owner of the ship.

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International Agreements and Conventions	Summary
International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties 1969	The convention gives State Parties powers to intervene on ships on the high seas when their coastlines are threatened by an oil spill from that ship.
Kyoto Protocol	This is an international treaty that extends the 1992 United Nations Framework Convention on Climate Change, which commits state parties to reducing GHG emissions.
The Paris Agreement	The Paris Agreement aims to limit global temperature rise this century to well below 2°C above preindustrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C. The Australian Government is committed to developing legislation to implement the commitments made in the Paris Agreement.
Vienna Convention for the Protection of the Ozone Layer 1985 and the Montreal Protocol on Substances that Deplete the Ozone Layer 1987	The convention is a multilateral environmental agreement that acts as a framework for international efforts to protect the ozone layer. The accompanying Montreal Protocol specifies goals for reducing the uses of chlorofluorocarbons, the main chemical agents causing ozone depletion.
Minamata Convention on Mercury 2013	The convention is an international treaty that seeks to protect human health and the environment from anthropogenic (caused by humans) emissions and releases of mercury and mercury compounds. The convention covers all aspects of the lifecycle of mercury, controlling and reducing mercury across a range of products, processes and industries. Department of Climate Change, Energy, the Environment and Water (DCCEEW) leads Australia's involvement in the Minamata Convention.
United Nations Framework Convention on Climate Change 1992	The convention is an international environmental treaty with the objective of stabilising GHG concentrations at a level that would prevent dangerous anthropogenic interference with the climate system.

2.4 Western Australian Legislation

The Operational Area for this EP is described in Section 3.3.1 and is within Commonwealth waters. Vessels supporting the Blacktip drilling may pass through Western Australia (WA) State waters while transiting to and from a port and will have to comply with a variety of WA legislation. The WA legislation relevant to the Blacktip drilling activities is summarised in Table 2.8.



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Table 2.8: Summary of the Western Australian legislation relevant to the Blacktip drilling

Legislation	Summary
<i>Dangerous Goods Safety Act 2004</i>	Relating to general vessel operations: this Act provides for safely storing, handling, and transporting certain dangerous goods, including explosives, gases and flammable or combustible liquids. Licencing may be required, depending on the substances involved and the quantities stored or transported. These laws are administered by the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS).
<i>Environmental Protection Act 1986</i>	Relating to non-routine operations (potential oil spills) in areas under State jurisdiction: this Act provides for preventing, controlling, and abating pollution and environmental harm and for conserving, preserving, protecting, enhancing, and managing the environment.
Marine (Certificates of Competency and Safety Manning) Regulations 1983	Marine Safety is responsible for administering national and internationally agreed competency standards; and for examining candidates for commercial Certificates of Competency as master, mate or engineer in WA vessels.
<i>Pollution of Waters by Oil and Noxious Substances Act 1987</i>	Relating to non-routine operations (potential oil spills) in State waters: this Act relates to protecting the sea and certain waters from pollution by oil and other noxious substances discharged from ships and places on land.
Prevention of Collisions at Sea Regulations 1983	Regulations largely comprise the Rules set out in the International Regulations for Preventing Collisions at Sea 1972 applicable in state and international waters.
<i>Western Australia Marine Act 1982</i>	Relating to vessel movements: an Act to regulate navigation and shipping.
<i>Western Australian Marine (Sea Dumping) Act 1981</i>	Relating to general vessel operations: an Act to provide for protecting the environment by regulating the dumping into the sea, and the incineration at sea, of wastes and other matter and the dumping into the sea of certain other objects, and for other purposes.
<i>Biodiversity Conservation Act 2016</i>	The <i>Biodiversity Conservation Act 2016</i> came into effect on 3 December 2016 and replaced the <i>Wildlife Conservation Act 1950</i> . Relating to potential impacts to listed species: this Act provides for conserving and protecting Western Australian wildlife.
<i>Fish Resources Management Regulations 1995</i>	Under Regulation 176 of the Fish Resources Management Regulations 1995, it is an offence to translocate live non-endemic fish to WA without permission. Under section 105 of the <i>Fish Resources Management Act 1994</i> , it is an offence to bring noxious fish into WA. Also, under Part 16A of the <i>Fish Resources Management Act 1994</i> , the Department has emergency powers to deal with incursions of invasive marine species (IMS), which include directing a person to perform necessary activities to prevent or control the spread of IMS, or to eradicate them in WA waters. If these activities are not undertaken, Eni may perform the activities and recover any costs incurred from the person initially directed to do so.


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2.5 Northern Territory Legislation

Vessels supporting Blacktip drilling may leave from Darwin or Wadeye and thus pass through Northern Territory (NT) waters while transiting to and from the Operational Area. While in NT waters, the support vessels will have to comply with a variety of NT legislation. The NT legislation relevant to the Blacktip drilling activities is summarised in Table 2.9.

Table 2.9: Summary of the Northern Territory legislation relevant to the Blacktip drilling

Legislation	Summary
<i>Dangerous Goods Act 1998</i>	This Act provides for safely storing, handling and transporting certain dangerous goods (such as flammable, combustible liquids) in order to promote public safety and protect property and the environment.
<i>Environment Protection Act 2019</i>	This Act establishes the framework for assessing potential or anticipated environmental impacts of development. The object of the Act is to ensure matters affecting the environment to a significant extent are fully examined and taken into account in decisions by the NT Government.
Environment Protection (National Pollutant Inventory) Objective 2004	This is an objective under the Waste Management and Pollution Control Act that provides for compulsory reporting of air emissions by certain facilities, in accordance with the Commonwealth National Environment Protection (National Pollutant Inventory) Measure.
<i>Heritage Act 2011</i>	This Act established the NT Heritage Council and governs the protection of both natural and cultural heritage places within the NT jurisdiction.
<i>Northern Territory Aboriginal Sacred Sites Act 1989</i>	This Act facilitates the protection and registration of sacred sites, through procedures for avoiding sacred sites when developing and using land and through establishing an Authority for the purposes of the Act.
<i>Waste Management and Pollution Control Act 1998</i>	This Act provides for protecting the environment through encouraging effective waste management and pollution prevention measures, including licencing for certain levels of pollution discharges to air and water. The Act does not apply to wastes that are confined to the site on which they are generated but requires licencing and registration for wastes that are discharged offsite.

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3 DESCRIPTION OF ACTIVITIES

3.1 Overview

This section has been prepared in accordance with Regulation 21(1) of the OPGGS(E) Regulations. A comprehensive description of the petroleum activity is included in this section and describes the activities to be undertaken under this EP.

3.2 Scope

The petroleum activity covered in this EP includes the Blacktip drilling, which is:


- a geophysical site survey at the WHP (Section 3.7)
- mobilisation and demobilisation of the jack-up MODU at the WHP (Section 3.5)
- drilling and completion of a new development well in the Blacktip field through an existing slot on the Blacktip WHP (Section 3.8)
- well intervention on current production wells at the WHP (Section 3.9).
- contingent workover operations on BT-P2 (Section 3.10).

Table 3.1 presents an overview of the Blacktip drilling activity.

Table 3.1: Blacktip drilling overview

Item	Description
Production area	WA-33-L
Well site	Blacktip
Coordinates	13° 53' 41" S 128° 29' 3" E
Water depth	51m
MODU type	Jack-up
Vessels	Up to three main support vessels Ad-hoc smaller support vessels as required.
Approx. duration ¹	190 days
Well	Un-named (provisionally P5)
Hydrocarbon	Blacktip gas and minor volumes of condensate
Activities	<ul style="list-style-type: none"> • Site survey (if required) • MODU placement • Drilling and cementing of conductor using seawater and pre-hydrated bentonite sweeps • Drilling and cementing of top hole section using water-based mud (WBM) as the drilling fluid • Installation of blowout preventer (BOP) • Drill intermediate and production hole sections using WBM • Cement production casing/liner • Well completion • Well-cleanup (including flaring) • Rig-based well intervention • Contingent workover operations

Note 1: Duration may extend for up to 20 days in the event of adverse weather conditions. Duration includes both drilling and contingent intervention.

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Decommissioning of Blacktip facilities is not included within the scope of this EP. However, decommissioning and removal of the Blacktip infrastructure have been designed and selected to meet the regulatory base case for full removal (OPGGS Act s.572(3)).


A comprehensive inventory of equipment and the precise location of installed infrastructure is recorded by Eni. This inventory will be used to plan for decommissioning in the future.

A future EP will meet the requirements of the OPGGS Act and OPGGS Regulations, and any additional relevant legislation, policies (such as NOPSEMA Policy 'Section 572 Maintenance and removal of property') and guidelines (such as Department of Industry, Science and Resources [DISR] Guideline 'Offshore Petroleum Decommissioning Guideline') in force at the time (NOPSEMA, 2020; DISR, 2022). Decommissioning options will be assessed before the end of the project life, as per relevant legislative requirements, and in consultation with relevant and interested persons.

Once drilled, the new well will be shut in; production from the new well will be covered under the Blacktip Operations EP (000036_DV_PR.HSE.0677.0000). Table 3.2 further clarifies the scope of this EP and the Blacktip Operations EP (000036_DV_PR.HSE.0887.000).

Table 3.2: Blacktip Environment Plan scopes

Environment Plan	Scope
Blacktip Drilling EP (this EP)	Geophysical survey The mobilisation, positioning and demobilisation of a MODU Drilling and completions Intervention (rig-based)
Blacktip Operations EP (000036_DV_PR.HSE.0677.000)	Ongoing operations of Blacktip facilities, including the production from Blacktip wells included in the EP Geophysical survey The mobilisation, positioning and demobilisation of a MODU Hook-up and commissioning of Blacktip wells Intervention (rig-less based)

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3.3 Location

The Blacktip field is located approximately 300km west-south-west of Darwin, in permit area WA-33-L in the JBG (Figure 3.1).

The coordinates of the WHP are presented in Table 3.3. The proposed drilling will occur from a jack-up MODU cantilevered over the WHP (refer Section 3.5).

Table 3.3: Coordinates of the wellhead platform

Component	Water depth	Latitude	Longitude
WHP	51 metres	13° 53' 42" S	128° 29' 3" E

Locations of infrastructure relating to the Blacktip operations are included in the Blacktip Operations EP (000036_DV_PR.HSE.0677.000).


3.3.1 Operational Area

The Operational Area defines the spatial boundary of the Blacktip drilling, as described, risk assessed and managed by this EP, including vessel-related petroleum activities within the Operational Area (Figure 3.1). For the Blacktip drilling, the Operational Area is a 500m radius around the Blacktip WHP. The nearest shoreline is approximately 100km to the east and 100km to the south.

As the jack-up MODU will be positioned adjacent to the Blacktip WHP platform (derrick cantilevered over the well bay), all activities associated with Blacktip drilling will occur within the existing 500m petroleum safety zone (PSZ) of the Blacktip WHP.

In the event of a well 're-spudded' due to operational difficulties, the MODU would be skidded over to a different slot on the WHP for re-drill, and therefore remain in the Operational Area.

Offshore supporting vessels conducting related activities within the Operational Area will be required to comply with this EP. Outside the Operational Area, maritime regulations and other requirements will apply to the vessels. This EP applies to activities undertaken within the Operational Area, as described in this section.

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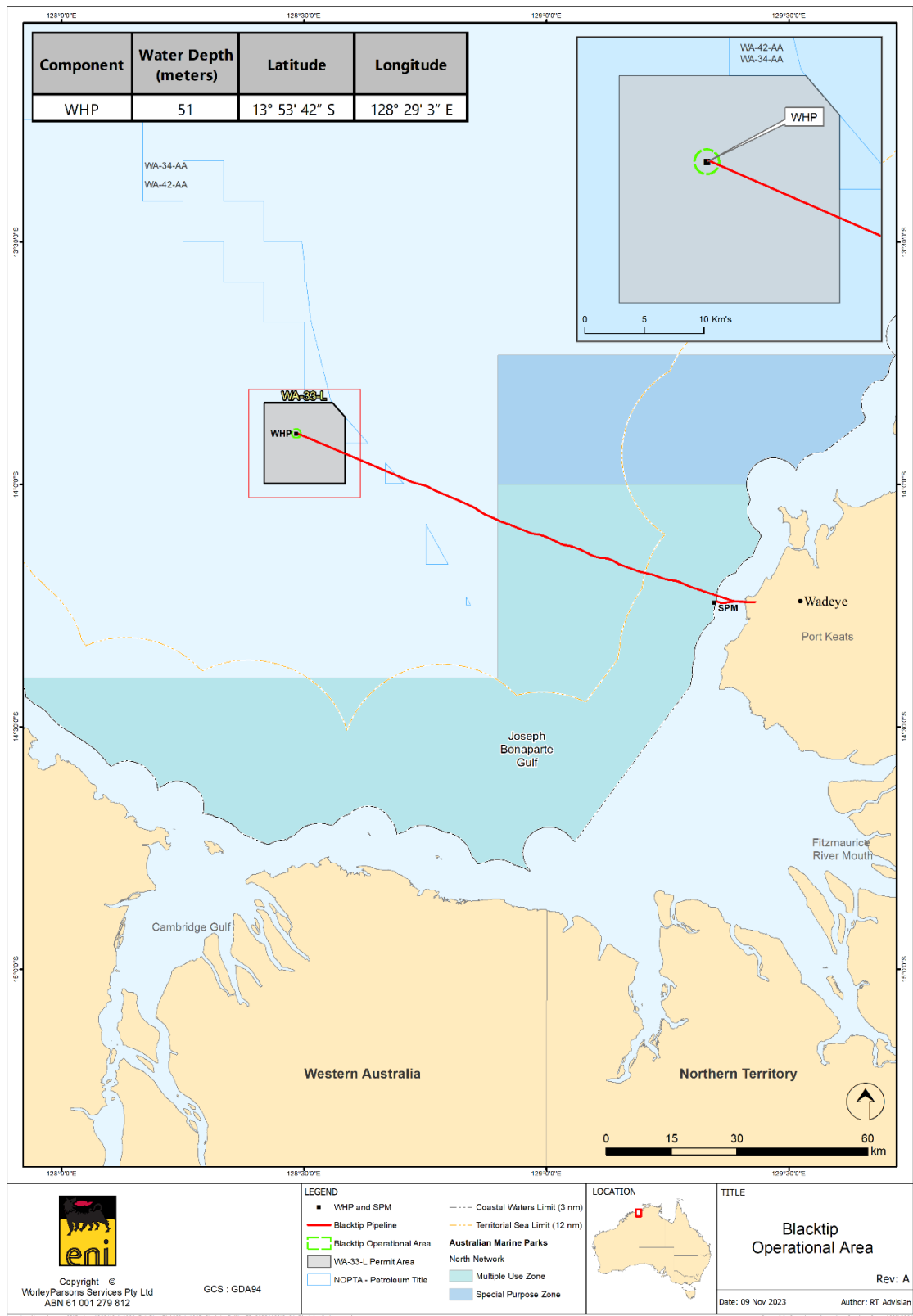



Figure 3.1: Blacktip Operational Area

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3.4 Timing

The timing of the Blacktip drilling is subject to MODU availability and to obtaining all regulatory and business approvals; however, is anticipated to occur between 2024 and 2027. The timing has not been finalised; therefore, this EP allows the drilling activities to be undertaken at any time of year over the validity of this EP.

3.4.1 Start of Activity

This EP comes into force on acceptance by NOPSEMA.

3.4.2 End of Activity

The EP will end when Eni notifies NOPSEMA the Blacktip drilling activity has ended, and all the obligations under the EP have been completed, and NOPSEMA has accepted the notification, in accordance with Regulation 46 of the OPGGS Regulations.

3.5 Mobile Offshore Drilling Unit

Eni shall contract a MODU, selected based on technical capability and in accordance with Eni's prequalification process. The MODU may mobilise from international waters to the JBG, where it will position adjacent to the Blacktip WHP (derrick cantilevered over the well bay) to perform the Blacktip drilling activities.

Selection of the MODU will be based on Eni's rig selection criteria, which considers technical and HSE suitability for the drilling. Criteria include:

- The MODU Contractor must be able to meet Eni's and Australian Regulatory environmental and safety standards and requirements and must operate under a NOPSEMA-accepted Vessel Safety Case.
- The MODU Contractor must meet Eni's prequalification assessment.
- The MODU's cantilever must be capable of reaching all required well slots on Blacktip WHP.
- The MODU must qualify for 50-year seasonal extreme weather survival.
- The MODU must be capable of jacking up over the Blacktip WHP main deck to give suitable clearance to install the BOP stack above the main platform deck.
- The MODU must be capable of drilling the development well down to the required depth.

Specifications of a typical MODU are provided in Table 3.4.


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Table 3.4: Specification of a typical mobile offshore drilling unit

Specification	Detail
Rig type	Jack-up
Accommodation	100 to 150
Mud and cement storage capacity	270m ³ / 174m ³
Fuel	marine diesel oil (MDO)
Fuel oil storage capacity	532m ³

The jack-up MODU is towed into position at the WHP by three support vessels. Once at the desired location and with the jack-up MODU stationary, the legs are lowered to be fully in contact (via spud cans) with the seabed. The jack-up MODU raises itself above the sea surface, supported by spud cans contacting the sea floor. The jack-up MODU then is cantilevered to position over the Blacktip WHP for drilling (refer Section 3.8). When ready to demobilise, the jack-up MODU is lowered and the spud cans retracted. A water jetting system (whereby water is pumped down the jack-up leg) may be used to free the jack-up legs before the MODU is jacked down and demobilised.

The jack-up MODU, while operating in Australian Commonwealth waters for Eni, will do so in accordance with a NOPSEMA-accepted Vessel Safety Case, including simultaneous operations arrangements with the WHP.

3.6 Support Operations

3.6.1 Vessels

The jack-up MODU will typically be supported by up to three support vessels. The activities these vessels may conduct are:

- towing the jack-up MODU
- standing by close to the jack-up MODU during critical operations
- standing by outside the 500m PSZ from the jack-up MODU
- delivering food, potable water, drill water, fuel, dry bulk, drilling fluids, chemicals, equipment and other supplies from shore
- delivering dry bulk, chemicals, equipment and waste to shore.

Transferring of items between the vessels and the jack-up MODU will be conducted using the cranes or transfer hoses on-board the jack-up MODU. At least one support vessel will remain in the vicinity of the jack up MODU at all times. The vessels will commute back and forth between Darwin and the Operational Area.

All vessels will be commercial vessels with a suitable survey class for the Blacktip drilling activities in the Operational Area.

Typical support vessel specifications for the Blacktip drilling activities are provided in Table 3.5.


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Table 3.5: Typical support vessel specifications

Parameter	Description
Draft (max)	6.8m (max)
Gross tonnage	3000 GT
Deck dimensions	350 to 750Sq.m
Fuel type	MDO
Total fuel capacity	1000m ³
Maximum single tank storage volume	100m ³
Fuel consumption at service speed	26m ³ /24 hours

A vessel with similar or smaller specifications to that in Table 3.5 will be used for geophysical survey (Section 3.7). Smaller ad-hoc vessels may also support activities.

Vessels used will not anchor during routine operations (vessels with a DP2 rating). In the event of an emergency, they will proceed into a sheltered harbour.

3.6.2 Helicopters

Crew changes for personnel onboard the jack-up MODU and supply of some equipment will involve transfer by helicopter. These flights will occur typically five times a week, depending on operational progress and logistical constraints, and will operate out of Darwin or another suitable alternate aviation base such as Truscott or Kununurra.

Helicopter refuelling on the jack-up MODU is not anticipated due to the Operational Area's proximity to the helicopter base, however it is possible that it does occur if operationally required.

3.6.3 Remotely Operated Vehicles

Remotely operated vehicles (ROVs) may be used throughout the Blacktip drilling activities for visual inspections and observations. ROVs are manoeuvrable submersible craft deployed and operated from vessels, typically 3m long and 2m wide.


3.7 Geophysical Survey

In preparation for drilling activities at the WHP, a site survey may be undertaken from a vessel. The survey area will occur within the existing 500m PSZ of the Blacktip WHP, with an expected duration of five to seven days.

The purpose of the site survey is to provide an accurate and current measurement of seabed bathymetry and confirm that previous jack-up footprints will be clear of debris or obstructions.

The survey objectives are to:

- accurately measure water depth and map seabed topography across the survey area
- identify potential seabed debris and obstructions that could potentially interfere with the positioning of the jack-up MODU.

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Typically, the equipment that will be used for the site survey to obtain the necessary data to ensure a hazard free jack-up MODU footing location are:

- vessel positioning and integrated survey online navigation system and offline processing system
- high-precision, single beam dual frequency echo sounder for measuring water depths along the survey track
- high-precision, motion-corrected multibeam echo sounder (MBES) for swathe bathymetry mapping of water depths along the survey track
- high-resolution side scan sonar (SSS) for delineating seabed features
- ultrashort-baseline acoustic positioning system and marine magnetometer.

3.8 Drilling Methodology

The Blacktip WHP was developed with space for six wells. The different phases of the development drilling are:

1. Move jack-up MODU to Blacktip WHP.
2. Jack-up hull and preload.
3. Skid cantilever over P5.
4. Drill 36-inch hole and install new 30-inch conductor pipe.
5. Cement 30-inch conductor pipe.
6. Nipple-up riser, diverter and function test.
7. Drill 26-inch hole and install 20-inch casing (see Section 3.8.1).
8. Cement 20-inch casing.
9. Install wellhead, nipple up and test BOPs.
10. Drill 17½-inch hole and install 13-5/8-inch casing.
11. Cement 13-5/8-inch casing.
12. Drill 12¼-inch hole.
13. (Contingency) Run open hole wireline logs.
14. Install and cement 9⅝-inch liner.
15. Drill 8½-inch hole and install 7-inch liner.
16. Cement 7-inch liner.
17. Run wellbore cleanout.
18. Run 7-inch and 9-5/8-inch CBL logs.
19. Install upper completion and tubing hanger.
20. Nipple down BOP, install Xmas tree and pressure-test.
21. Rig up coil tubing.
22. Run in hole and displace well to nitrogen – underbalance.
23. Rig down coil tubing and rig up wireline.

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24. Perforate on wireline.

25. Perform clean up flow to surface.

Note: During clean-up operations, wireline production logs may be run.

26. Install tree cap.

27. Secure rig and jack down.

WHP production wells will be depressurised during the rig approach.

All standards and requirements for the development well will be documented within the Blacktip Development Well Operations Management Plan (WOMP).

3.8.1 Casing

Drilling of the development well will involve installing several concentric strings of steel casing. The casing string will extend from the platform deck to various depths of the well to provide the hydraulic seal necessary to safely drill and produce the well.


The casing design for the development well will include:

- surface conductor cemented to isolate loose and unconsolidated surface formation and prevent contamination to mudline
- surface casing cemented to provide blowout protection and to seal off freshwater resources and aquifers and prevent loss of circulation; depth is selected to allow control of a well kick if it occurs in the subsequent hole sections
- production liner, which is used to protect weak formations, and the depth is selected as per above. It is set in place across the target reservoir and will be perforated to allow gas production.

At the WHP deck level, the production tubing will connect to the wellhead on which a Xmas tree will be installed, which will have a system of manual, failsafe and remotely operated valves designed to allow the safe connection and operation of the well and prevent loss of well control. From each wellhead the gas, condensate and produced water flows through a flowline into a manifold before export via the production riser and Blacktip gas export pipeline.

3.8.2 Drilling Fluids and Cuttings

Drilling fluids, commonly referred to as 'muds', consist of a mixture of base fluid, liquid and solid additives and weighting materials. The drilling mud is essential to many aspects of the drilling process, including protecting equipment, stabilising the wellbore and removing drill cuttings. The most important function of the drilling mud is to maintain primary well control. The hydrostatic pressure of the mud is maintained at a level estimated to exceed the formation pore pressure along the open hole and therefore prevents uncontrolled flow or collapse of the wellbore. The drilling mud is designed to assist with removing cuttings and debris from the wellbore, in addition to lubricating and cooling the drill bit.

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The mud is mixed, stored and maintained in tanks on the jack-up MODU. During drilling, it is pumped down the drill string to the rotary drill bit, then forced up the annulus between the drill string and wellbore or casing. Aside from the conductor hole, which is drilled with mud returns to seabed, the circulation system is closed, which allows the drilling mud to be circulated to the surface facilities, along with the drill cuttings, for processing.

WBMs will be used to drill the development well. WBMs are regularly used for drilling operations and considered an environmentally acceptable technology. WBMs use fresh or sea water as the continuous phase, with additives including bentonite, potassium chloride, polymers and partially hydrolysed polyacrylamide added to condition the mud. WBMs deliver acceptable performance for drilling non-challenging wells, such as vertical wells with inert rock formations.

Other additives may be required in small amounts to assist in controlling bacteria and corrosion; and to produce specific fluid characteristics. Likely additives include biocides, weighting agents, alkaline chemicals, inorganic salts, defoamers, corrosion control agents, scale inhibitors, drilling lubricants, lost circulation materials and pipe release agents. Pipe dope, a lubricant used when connecting threads on pipe strings, becomes mixed with the mud as it is forced along the pipe string. Any excess dope is lost down hole during drilling and ultimately lost to sea with the drill cuttings and muds.

Processing equipment enables the mud to be recycled by recovering as much mud as is practical and removing a large proportion of the drill cuttings with vibrating screens (shale shakers). Excess WBMs will be flushed with seawater and discharged to the ocean through a direct overboard drain. The whole drilling muds will be routinely discharged to the ocean at the end of drilling, or when mud property requirements change. The result will be a thin layer of cuttings and muds widely distributed over the seabed, as well as a plume of turbid water created by the finer particles which remain suspended in the water column for some time before they sink to the seabed.

The approximate volume of muds and cuttings discharge for the new development well is summarised in Table 3.6.

All drilling fluids will be environmentally assessed in accordance with the process described in Section 3.12.



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Table 3.6: Estimate of the drill cuttings and drilling muds discharged for the new development well

Bore diameter (inches)	Depth (m)	Well interval	Cuttings	Mud			Approx. discharge duration (days)
			Volume discharged (m ³)	Type	Volume seawater and muds (m ³)	Drilling muds solids only (m ³)	
30	108-186	Conductor	77	Seawater and sweeps	2500	10%	2
26	186-90	Surface Hole	340	WBM	654	10%	6
17.5	950-2275	Intermediate Hole	267	WBM	546	10%	7
12.25	2275-2682	Intermediate Hole	42	WBM	246	10%	8
8.5	2682-3142	Production Hole	22	WBM	102	10%	9
		Total	748		4049		

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3.8.3 Cement

Cementing fluids will generally consist of Portland cement with additives (such as inorganic salts, lignins, bentonite, resin, and surfactants). Cementing fluids are not routinely discharged to the marine environment; however, volumes (refer Table 7.11 for volumes) could be released when surplus fluids require disposal after cementing operations at the surface. Water-based cement spacers can be used as part of the cementing process within the well casing to assist with cleaning the casing sections before cement flowthrough.

Cement will be used to form permanent barriers and fix casings in place before drilling the next sections in the well. Cement in the annular space between casing and formation will form a seal to ensure the circulation system remains closed. Cement may also be used to seal a lost circulation zone, plug the well from which a side-track may be drilled, and when abandoning the well. The majority of cement pumped remains downhole, but minor volumes (approximately 5m³) may be discharged at surface (when flushing lines or tanks). Tracer dyes may be used during cementing operations for detection purposes.

While cementing the 30-inch conductor, cement returns will be taken on the seabed. The maximum volume of excess cement slurry which could be discharged at the seabed is 35m³.

While transferring bulk drilling fluid materials and cement, minor solids will be vented to air to prevent tank overpressure.

Unused excess dry bulk cement which is stored in the jack-up MODU silo and surplus to requirements of the well will be provided to the next operator at the end of the drilling (as it remains on the MODU). If this is not a feasible option, the excess cement will be returned to shore via a support vessel. The volume of cement required for the operation is reasonably well understood and can be predicted fairly accurately; however, it is standard industry practice for additional cement to be made up as contingency.


All cementing chemicals will be environmentally assessed in accordance with the process described in Section 3.12.

3.8.4 Blowout Preventer Testing

The BOP will be routinely checked by completing pressure and function testing in line with Safety Case and WOMP commitments. As the BOP is at the surface, no fluids are released to the marine environment.

3.8.5 Completions

Following successful drilling and casing of the reservoir, well completion will be undertaken to connect the reservoir to production facilities. After running and cementing the liner, the drilling mud in the tubing and casing annulus will be displaced to approximately 90m³ of completion brine (typically potassium chloride solution). This provides a solid-free medium for the completion string that will generate minimal chemical interaction when in contact with reservoir formation fluids and maintain a positive overbalance to reservoir pressure.

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After Xmas tree installation, a coiled tubing unit will be rigged up and run in the hole to remove brine via nitrogen lift and underbalance the well for perforation.

A zone will be perforated with through-tubing wireline perforation guns, followed by well-cleanup to a well test spread. Depending on the results of the well-cleanup, the zone may be required and, if needed, isolated with a bridge plug and re-completed to a higher zone.

Production logs may be run during completion and well-cleanup operations to assist in well performance analysis.

If the reservoir pressure is high enough, either base oil or diesel will be used to underbalance the well, replacing nitrogen. Approximately 40m³ base oil or diesel will be circulated into the tubing during completion operations. This volume will provide an under-balanced condition in the tubing to assist in flowing hydrocarbons to the surface after perforation. Diesel/base oil, being a hydrocarbon product, generates minimal formation damage should it meet the reservoir. The diesel/base oil will be burnt (flared) as part of the well-cleanup operation (Section 3.8.6) after completion.


3.8.6 Well-Cleanup

The well-cleanup process will occur after perforation or acid stimulation of each zone. The purpose is to clean up drilling, completion and stimulation fluids, measure the production potential and identify potential reservoir damage.

Well-cleanup will initially be venting nitrogen followed by a mixture of completion brine, natural gas, gas condensate and condensed water. If base oil or diesel is used for underbalance after unloading, the base oil or diesel will be flared. The brine returned from the wellbore will be filtered and discharged once it meets the specification for discharged water.

After the wellbore volume is recovered, the well will continue to flow via the well test package; formation fluids will be produced to clean up the formation and perforations. Flowing duration for the well-cleanup is expected to be around 50 hours, although it may be as high as 96 hours (per well). Condensed water is used to heat the fluids via a steam exchanger in the well test package.

Produced fluids throughout the clean-up are expected to consist of natural gas, gas condensate and condensed water. Small quantities of solids are expected to be returned to the surface. Formation water production is also possible, but not anticipated.

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Gas produced during the well-cleanup will be flared via the gas flare. Gas/condensate produced will be flared via the oil burner. Dual-redundant ignition systems (of differing designs) will be used on both the gas flare and oil burner to maximise reliability and minimise the risk of flare-out. The oil burner being used is a modern 'clean' burner with DNV-certified environmental performance. The base oil or diesel from the wellbore will be burned in one continuous operation, but the gas condensate flow rate will not be sufficient to burn continuously; so, it will be first directed to a storage tank, and will be burned off in batches. Compressed air will be used to atomise the combustible liquids, improving combustion performance. Under normal operating conditions, smoke from the oil burner when burning base oil, gas condensate or diesel is almost invisible (indeed, the vast majority of the visible plume is water vapour). It is possible, if process upsets occur such as a blockage in the compressed air line, that a darker plume of smoke will appear when burning liquids. If thick black smoke persists, the well will be shut in and the process upset rectified.

Any water produced during the clean-up (either condensed water or formation water) will be filtered and measured, then discharged if it meets the discharge specification (<30ppm hydrocarbon content).

Methanol is used in the well test package to prevent the formation of hydrates. It is pumped, under pressure, into the well stream. Approximately 50% of the methanol is injected into the gas flow downstream of the separator, and as such is combusted in the gas flare. The remaining methanol is injected upstream of the separator and tends to bind with the water. Approximately 50% of methanol injected is therefore discharged in the condensed water.

Solids that are successfully separated in the well test package are returned to shore for safe disposal. It is possible some extremely fine solids will pass through the separator and water filtration system, but the volume will be negligible (less than 1 kg), of which the vast majority will be calcium carbonate.

Small quantities of MEG are used for equalising and pressure testing throughout the program. This typically mixes with the water phase in the well testing package and is discharged with the condensed/formation water.

Approximate well-cleanup discharge is shown in Table 3.7 for a single well during development drilling. Approximate well-cleanup combusted masses are shown in Table 3.8. Intervention activities also include cleanup; any volumes discharged or combusted are significantly below the values presented in Table 3.7 and Table 3.8.

Table 3.7: Approximate well-cleanup discharge

Discharge	Volume
Condensed water	60m ³ - 150m ³
Formation water	500m ³
Brine	50m ³
Methanol	4m ³
MEG	4m ³
Natural gas	4700 to 10,500kg


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Table 3.8: Approximate well-cleanup combusted mass

Mass	Volume
Natural gas	1,900,000 to 4,100,000kg (2,500,000 to 5,325,000 Sm ³)*
Gas condensate	53,000 to 117,000kg (66 to 146 Sm ³)*
Base oil or diesel	40m ³

*Note: Blacktip has a gas Density of 0.77 kg/Sm³ (at std) and a condensate density of 800 kg/Sm³

All well-cleanup chemicals will be environmentally assessed in accordance with the process described in Section 3.12.

3.8.7 Well Control


Eni ensures control of wells through control measures incorporated into the well design, drilling procedures, mud selection, personnel training and equipment maintenance and testing. Well control requirements will be detailed within the NOPSEMA-approved WOMP and the MODU Safety Case and campaign-specific Safety Case Addendum.

3.9 Intervention Methodology

Eni may engage in rig-based intervention activities to address well performance on any of the current Blacktip production wells. The intervention activities typically last for a period of 20 to 30 days (full intervention campaign) and involve installing additional temporary equipment on the WHP. Wells on the WHP are depressurised prior to any intervention occurring (venting will occur). An example of the types of activities performed during rig-based intervention are detailed below.

Rig-based intervention activities may consist of:

- Performing wireline/slickline/fibreoptic e-line logging operations to investigate downhole conditions, including:
 - production logging tests
 - reservoir saturation tool runs
 - multi-finger calliper runs
- setting plugs on the wireline/slickline to isolate specific zones within the well
- running straddles to isolate perforated zones
- shifting position of sliding sleeves
- re-perforating producing zones
- rigging up coil tubing to:
 - stimulate the well with acid
 - displace well to nitrogen – underbalance for flow-back
 - perform contingency fishing and milling operations
 - circulate debris out of the well (clean-up, as per the methods in Section 3.8.6)
 - run active line inside coil tubing for depth correlation.

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The logging, plugging, perforation, stimulation and flow-back operations are conducted on the Blacktip WHP by skidding the rig above the wellheads. Wireline/slickline/coil-tubing pressure control equipment is rigged up over the Xmas tree and pressure-tested before exposing the equipment to well pressure. Well intervention operations as above are then conducted before performing flow tests (if required).

Similar to the drilling, a BOP is installed on the wells and well control is managed as per the details in Section 3.8.7.


Rig-less intervention campaigns are typically conducted using wireline/slickline equipment, with access to the WHP provided by a marine support vessel. These scopes are included under the Blacktip Operations EP (000036_DV_PR.HSE.0677.000).

3.10 Workover Methodology

Workover operation is contingent to the outcome of intervention operations planned on BT-P2. The different phases of the workover operations are:

1. Skid cantilever over P2.
2. Removed deck hatch and tree-cap.
3. Install 9-5/8" Riser and make up surface flow tree and pressure test the same.
4. Secure well with two mechanical barriers.
5. Rig down 9-5/8" Riser and surface flow tree.
6. Nipple down X-mas tree.
7. Nipple up and test BOPs.
8. Recover completions.
9. Abandon the reservoir as per approved WOMP.
10. Run in hole with whipstock, confirm orientation and set same.
11. Run in hole with the milling assembly and mill a window in 9-5/8-inch casing.
12. Drill 8½-inch hole and install 7-inch liner.
13. Cement 7-inch liner.
14. Run wellbore cleanout.
15. Run 7-inch CBL logs.
16. Install upper completion and tubing hanger.
17. Nipple down BOP, install Xmas tree and pressure-test.
18. Rig up coil tubing.
19. Run in hole and displace well to nitrogen – underbalance.
20. Rig down coil tubing and rig up wireline.
21. Perforate on wireline.
22. Perform clean up flow to surface.

Note: During clean-up operations, wireline production logs may be run.

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All standards and requirements for the abandonment and sidetrack will be documented within the Blacktip Development Well Operations Management Plan (WOMP).

3.10.1 Casing

During the workover operation a window will be cut in 9-5/8" casing. A 8-1/2" hol section will be drilled followed by running and cementing 7" production liner.

- production liner, which is used to protect weak formations, and the depth is selected as per above. It is set in place across the target reservoir and will be perforated to allow gas production.

At the WHP deck level, the production tubing will connect to the wellhead on which a Xmas tree will be installed, which will have a system of manual, failsafe and remotely operated valves designed to allow the safe connection and operation of the well and prevent loss of well control. From each wellhead the gas, condensate and produced water flows through a flowline into a manifold before export via the production riser and Blacktip gas export pipeline.

3.10.2 Drilling Fluids and Cuttings

During the workover operations only 8-1/2" section will be drilled. The drilling fluids philosophy for workover operations is same as discussed in Section 3.8.2.

The approximate volume of muds and cuttings discharge for the workover operation is summarised in Table 3.9.

All drilling fluids will be environmentally assessed in accordance with the process described in Section 3.12.



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Table 3.9: Estimate of the drill cuttings and drilling muds discharged for the contingent workover operations

Bore diameter (inches)	Depth (m)	Well interval	Cuttings	Mud			Approx. discharge duration (days)
			Volume discharged (m ³)	Type	Volume seawater and muds (m ³)	Drilling muds solids only (m ³)	
8.5	~1200-3200	Production Hole	102	WBM	280	10%	12
		Total	102		280		

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3.10.3 Cement

During the Contingent workover operations, reservoir section will be abandoned with cement plugs and 7" liner will be run and cemented in the 8-1/2" sidetrack section. The cement philosophy for workover operations is same as discussed in Section 3.8.3.

All cementing chemicals will be environmentally assessed in accordance with the process described in Section 3.12.

3.10.4 Blowout Preventer Testing

The BOP will be routinely checked by completing pressure and function testing in line with Safety Case and WOMP commitments. As the BOP is at the surface, no fluids are released to the marine environment.

3.10.5 Completions

Following successful sidetrack and casing of the reservoir, well completion will be undertaken to connect the reservoir to production facilities. After running and cementing the liner, the drilling mud in the tubing and casing annulus will be displaced to approximately 110m³ of completion brine (typically potassium chloride solution). This provides a solid-free medium for the completion string that will generate minimal chemical interaction when in contact with reservoir formation fluids and maintain a positive overbalance to reservoir pressure.

After Xmas tree installation, a coiled tubing unit will be rigged up and run in the hole to remove brine via nitrogen lift and underbalance the well for perforation.

A zone will be perforated with through-tubing wireline perforation guns, followed by well-cleanup to a well test spread.


Production logs may be run during completion and well-cleanup operations to assist in well performance analysis.

If the reservoir pressure is high enough, either base oil or diesel will be used to underbalance the well, replacing nitrogen. Approximately 40m³ base oil or diesel will be circulated into the tubing during completion operations. This volume will provide an under-balanced condition in the tubing to assist in flowing hydrocarbons to the surface after perforation. Diesel/base oil, being a hydrocarbon product, generates minimal formation damage should it meet the reservoir. The diesel/base oil will be burnt (flared) as part of the well-cleanup operation (Section 3.10.6) after completion.

3.10.6 Well-Cleanup

The well-cleanup process will occur after perforation or acid stimulation of each zone. The purpose is to clean up drilling, completion and stimulation fluids, measure the production potential and identify potential reservoir damage.

Well-Cleanup philosophy for workover operations is same as discussed in Section 3.8.6.

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Approximate well-cleanup discharge is shown in Table 3.10 for a single well during development drilling. Approximate well-cleanup combusted masses are shown in Table 3.8. Intervention activities also include cleanup; any volumes discharged or combusted are significantly below the values presented in Table 3.10 and Table 3.11.

Table 3.10: Approximate well-cleanup discharge

Discharge	Volume
Condensed water	60m ³ – 150m ³
Formation water	500m ³
Brine	50m ³
Methanol	4m ³
MEG	4m ³
Natural gas	4700 to 10,500kg

Table 3.11: Approximate well-cleanup combusted mass

Mass	Volume
Natural gas	1,900,000 to 4,100,000kg
Gas condensate	53,000 to 117,000kg
Base oil or diesel	40m ³

All well-cleanup chemicals will be environmentally assessed in accordance with the process described in Section 3.12.

3.11 Mobile Offshore Drilling Unit Operations

Operational discharge streams from the MODU and vessels include:


- deck drainage and stormwater
- putrescible waste and sewage and grey water
- oily water
- cooling water
- desalination plant effluent (brine) and backwash water discharge
- ballast water.

3.11.1 Deck Drainage

During the activity, the MODU and vessels are likely to receive rainfall on deck. Deck cleaning and wash-down may also occur as part of standard operations. Deck water will be discharged to sea and may contain detergents and contaminants in trace quantities, such as wash chemicals.

3.11.2 Putrescible Waste and Sewage

The volume of sewage and food waste is directly proportional to the number of persons on-board the jack-up MODU and vessels.

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3.11.3 Oily Water

Bilge water is an almost unavoidable product in marine operations. Bilge water that is generated in proximity to equipment (such as in the engine room) may contain residual hydrocarbons. Bunded spaces around machinery may also contain oily water. Oily water will be directed to a bilge water tank, and either treated and released to the marine environment, or transferred onshore for disposal.

3.11.4 Cooling Water

Seawater is used as a heat exchange medium for cooling machinery engines. Seawater is drawn from the ocean and flows counter-current through closed-circuit heat exchangers, transferring heat from the vessel engines and machinery to the seawater. The seawater is then discharged to the ocean (as in, it is a once-through system). Cooling water temperatures vary depending upon the vessel's engine's workload and activity. Heated water may also be discharged from the jack-up MODU during well testing activities. Cooling water may be dosed with inhibitors to protect against cavitation erosion and corrosion, mineral scale deposits and electrolysis.

3.11.5 Desalination Plant Effluent (Brine) and Backwash Water Discharge

Effluents from the water supply systems onboard the jack up MODU and vessels will be discharged to the marine environment at a salinity higher than seawater. The volume of the discharge depends on the requirement for fresh (or potable) water and will vary between the vessels and the number of persons on board.


The effluent may contain scale inhibitors that control inorganic scale formation, such as the formation of calcium carbonate and magnesium hydroxide, in water-making plants. Other water treatment chemicals such as chlorine may also be added to the potable water. Other water-making plant cleaning chemicals may be used and discharged to sea after completing the cleaning process.

3.11.6 Ballast Water

The vessels contain ballast seawater for stability reasons and may need to exchange ballast seawater on location. This will be done in accordance with the Australian Ballast Water Management Requirements (DAWE, 2020).

3.11.7 Solid and Liquid Waste

Non-hazardous solid wastes including paper, plastics and packaging, and hazardous solid wastes such as batteries, fluorescent tubes, medical wastes, and aerosol cans, will be generated during the Blacktip drilling activities. Liquid waste such as used engine oil, hydraulic fluids, solvents and paints may also be produced during the drilling activity. All these wastes are disposed of onshore.

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3.12 Chemical Assessment Process

All operational chemicals used in Blacktip activities are considered within the scope of this chemical assessment and selection process. These include production, drilling, cementing, completion, and rig chemicals (pipe dopes and threadlock chemicals). Chemicals required for maintenance activities (such as paints, lubricants, and greases), portable water treatment chemicals, emergency response chemicals and those chemicals used for domestic purposes are considered out of scope. The scope follows the same principles as applied in the United Kingdom under the Offshore Chemical Regulations 2002 (as Amended 2011).

3.12.1 Assessment Process

3.12.1.1 Centre for Environment, Fisheries and Aquaculture Science Offshore Chemical Notification Scheme Registered Chemicals

All chemicals registered on the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) Offshore Chemical Notification Scheme (OCNS) list with assigned Hazard Quotient (HQ) Bands of Gold or Silver, or OCNS Groups E or D, and have no substitution warnings or product warnings, are determined to not require further assessment as they do not present a significant impact on the environment in standard discharge scenarios. These chemicals are considered approved for use or discharge for the Blacktip activities.

CEFAS OCNS registered chemicals which have a substitution warning, product warning or have HQ Bands of White, Blue, Orange, Purple or OCNS Groups of A, B or C require assessment by an appropriate Eni person to understand the environment risk of their use and discharge into the marine environment. Eni may either reject or approve once an ALARP assessment is documented and signed off, showing the environmental risk from the use and discharge is acceptable.


3.12.1.2 Chemicals Not Registered by the Centre for Environment, Fisheries and Aquaculture Science Offshore Chemical Notification Scheme

All chemicals proposed for use that are not on the CEFAS OCNS register require assessment by an appropriate Eni person to understand the environment impacts of their use and discharge to the marine environment.

3.12.1.3 As Low as Reasonably Practicable Chemical Assessment and Justification for Use or Discharge

CEFAS OCNS-registered chemicals which have a substitution warning, a product warning or have HQ Bands of white, blue, orange, purple or OCNS Groups of A, B or C and any chemical which is not registered under the CEFAS OCNS require further assessment by an appropriate Eni person in accordance with the principles of ALARP. This assessment includes:

- assessment of the chemical's application and discharge
- assessment of the ecotoxicity, biodegradation and bioaccumulation potential of the chemical in the marine environment and any other applicable environmental information available (see below)

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- investigation of potential alternatives for the chemical, with preference for options that are on the OCNS-Ranked List of Notified Chemicals with OCNS HQ of Gold, Silver, or are Group E or D, with no substitution or product warning and chemicals that have low ecotoxicity risk (Section 3.12.2), are readily biodegradable (Section 3.12.3) and do not bioaccumulate (Section 3.12.4)
- if no more environmentally suitable alternatives are available, further risk reduction measures (such as controls related to use and discharge) considered for the specific context and implemented where relevant to ensure the risk is ALARP and acceptable
- justification of the selected chemical in respect to others available
- further risk reduction measures; as in, specific controls on its use or future recommendations
- concurrence and sign-off by the relevant Environment Team Lead that the environmental risk associated with the chemical use and discharge is ALARP and acceptable.

The above is included and documented in the Eni HSE Standard: Hazardous Materials Management (ENI-HSE-ST-009).

3.12.2 Ecotoxicity Assessment

Table 3.12 and Table 3.13 can act as guidance in assessing a chemical's toxicity. Table 3.12 is used by CEFAS to group chemicals based on ecotoxicity results, 'A' representing highest toxicity and risk to the environment and 'E' lowest. Table 3.13 shows classifications and categories of toxicity against ecotoxicity results.

Table 3.12: Initial Centre for Environment, Fisheries and Aquaculture Science Offshore Chemical Notification Scheme grouping

Initial grouping	A	B	C	D	E
Result for aquatic-toxicity data (ppm)	<1	>1 to 10	>10 to 100	>100 to 1000	>1000
Result for sediment-toxicity data (ppm)	<10	>10 to 100	>100 to 1000	>1000 to 10,000	>10,000

Note: Aquatic Toxicity refers to the Skeletonema costatum EC50, Acartia tonsa LC50 and Scophthalmus maximus (juvenile turbot) LC50 toxicity tests. Source: DMP 2013, Environmental Risk Assessment of Chemicals Used in WA Petroleum Activities Guideline.


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Table 3.13: Aquatic species toxicity grouping

Category	Species	LC50 and EC50 criteria
Very toxic	Fish	LC50 (96 hrs) of <1mg/l
	Crustacea	EC50 (48 hrs) of <1mg/l
	Algae and other aquatic species	ErC50 (72 or 96 hrs) of 1mg/l
Toxic	Fish	LC50 (96 hrs) of >1mg/l to >10mg/l
	Crustacea	EC50 (48 hrs) of >1mg/l to <10mg/l
	Algae and other aquatic species	ErC50 (72 or 96 hrs) of 1mg/l to <10mg/l
Harmful	Fish	LC50 (96 hrs) of <10mg/l to <100mg/l
	Crustacea	EC50 (48 hrs) of <10mg/l to <100mg/l
	Algae and other aquatic species	ErC50 (72 or 96 hrs) of <10mg/l to <100mg/l

Source: DMP 2013, *Environmental Risk Assessment of Chemicals Used in WA Petroleum Activities Guideline*

If a product has no specific ecotoxicity data available, the following options should be considered:

- Ecotoxicity data for analogous products can be referred to where the chemical ingredients and composition are largely identical (for example, Portland cement is produced by different manufacturers, with some having minor variations in content; ecotoxicity from a variation product may be used with careful consideration).
- Ecotoxicity data may be referenced for each separate chemical ingredient (if known) within the product.


3.12.3 Biodegradation Assessment

The biodegradation of chemicals is assessed using the CEFAS biodegradation criteria, which aligns with the categorisation outlined in the DMP Chemical Assessment Guide: *Environmental Risk Assessment of Chemicals used in WA Petroleum Activities Guideline*.

CEFAS categories biodegradation into the groups of:

- readily biodegradable: results of greater than 60% biodegradation in 28 days to an oil spill prevention, administration, and response (OSPAR) harmonised offshore chemical notification format (HOCNF)-accepted ready biodegradation protocol
- inherently biodegradable: results greater than 20% and less than 60% to an OSPAR HOCNF-accepted ready biodegradation protocol or a result of greater than 20% by OSPAR-accepted inherent biodegradation study
- not biodegradable: results from OSPAR HOCNF accepted biodegradation protocol or inherent biodegradation protocol are less than 20%, or half-life values derived from aquatic simulation test indicate persistence.

Chemicals with greater than 60% biodegradation in 28 days to an OSPAR HOCNF-accepted ready biodegradation protocol are considered acceptable in terms of biodegradation.


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3.12.4 Bioaccumulation Assessment

The bioaccumulation of chemicals is assessed using the CEFAS bioaccumulation criteria, which aligns with the categorisation outlined in the DMP Chemical Assessment Guide: *Environmental Risk Assessment of Chemicals used in WA Petroleum Activities Guideline* (2013).

The following guidance is used by CEFAS:

- Non-bio-accumulative: LogPow <3, or BCF ≤100 and molecular weight is ≥700.
- Bio-accumulative: LogPow ≥3 or BC>100 and molecular weight is <700.

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4 DESCRIPTION OF THE ENVIRONMENT

The purpose of this section is to address the requirements of OPGGS(E) Regulations 21(2) and 21(3) by describing the existing environment, including values and sensitivities that may be affected by both planned activities and unplanned events.

The description of the environment applies to two spatial areas:

1. the Operational Area (as defined in Section 3.3.1)
2. the environment that may be affected (EMBA) or low exposure zone (as defined in Section 4.1).

A third area is referenced in this EP. The zone of potential impact (ZPI) or moderate exposure zone (as defined in Section 8.5 and shown in Figure 4.1) is smaller than the EMBA and may be representative of an area of biological impact from hydrocarbons (refer Section 8.5 for more information).

While this section summarises the values and sensitivities within the Operational Area and EMBA, a full description of the environmental values and sensitivities relevant to the Operational Area and EMBA is provided in Appendix B.

The DCCEEW Protected Matters Search Tool (PMST) was used to identify MNES listed under the EPBC Act in the Operational Area, ZPI and EMBA (refer Appendix B). This section is informed by this search.

4.1 Determination of the Environment that May Be Affected

Stochastic hydrocarbon dispersion and fate modelling has been performed on the worst-case credible hydrocarbon releases from the Blacktip drilling activities. The EMBA (Figure 4.1) encompasses the outermost boundary of the worst-case spatial extent of the credible hydrocarbon release scenarios, based on the hydrocarbon low exposure values presented in Table 4.1, which have been justified in Section 8.5.

Table 4.1: Credible hydrocarbon release scenarios and exposure thresholds applied to create the environment that may be affected

Spill scenario	Threshold applied to create the EMBA	Modelling	Section
100m ³ surface loss of MDO from vessel collision at the WHP	Weathering of surface hydrocarbon to zero and that the surface spill will travel at 100% of the speed and direction of ambient currents, and 3% of speed and direction of local wind	ADIOS II	8.7
4943m ³ surface loss of Blacktip condensate as a result of a well blowout during drilling	Surface hydrocarbon (1g/m ²) Entrained hydrocarbon (10ppb) Dissolved aromatic hydrocarbon (6ppb) Shoreline (10g/m ²)	RPS APASA	8.6

Stochastic modelling compensates for the uncertainty associated with any single hydrocarbon spill event, such that risk assessment and spill response planning are more robust and conservative by covering a wide range of possible scenarios. The footprint of an actual spill event is more accurately represented by only one of the simulations from the stochastic modelling, resulting in a much smaller spatial footprint.



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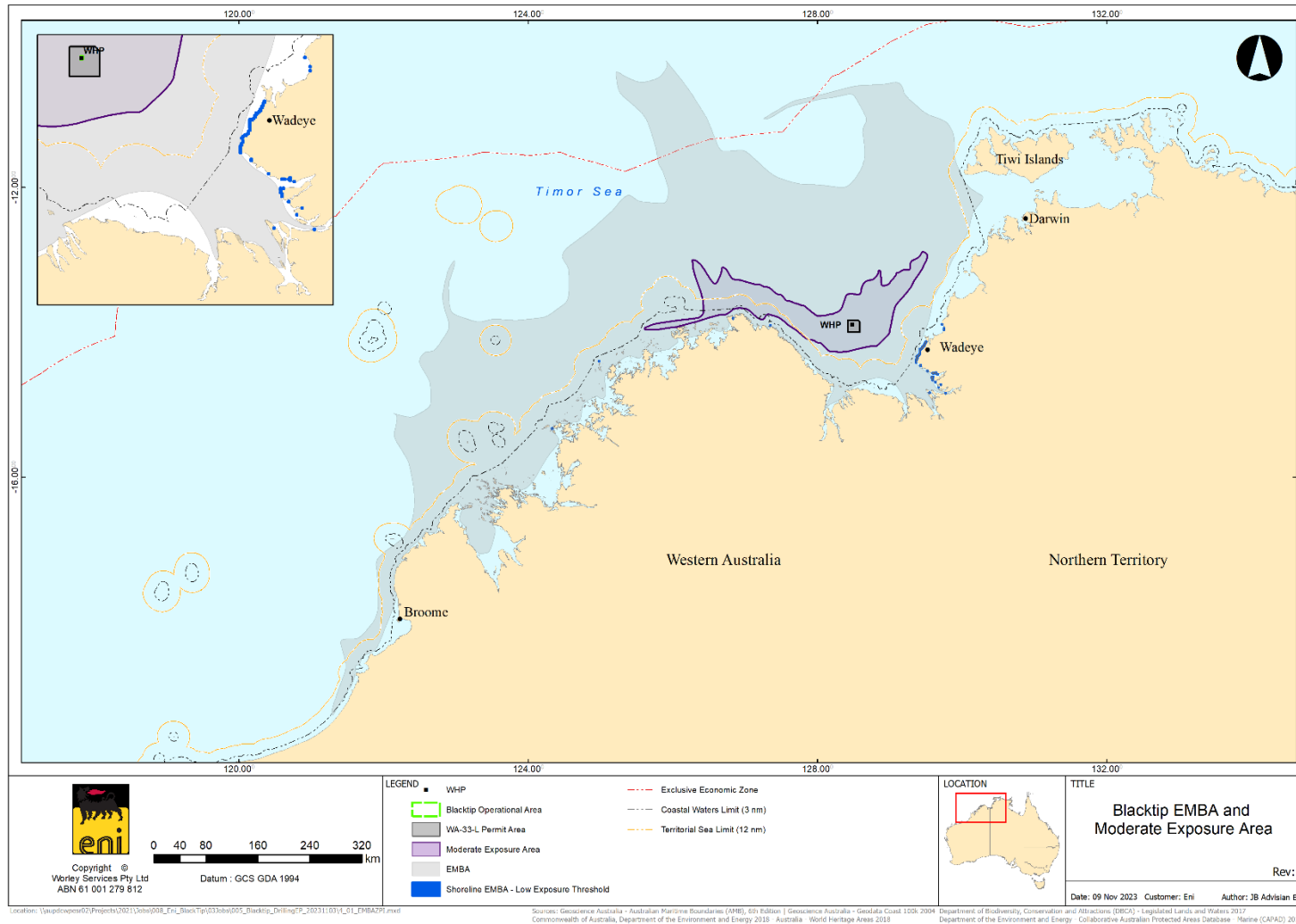



Figure 4.1: The environment that may be affected and moderate exposure area for the Blacktip drilling activities

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4.2 Particularly Relevant Values and Sensitivities of the Environment

Table 4.2 and Table 4.3 summarise the MNES (EPBC Act) identified as potentially occurring within the Operational Area and EMBA, respectively, as determined by the PMST results (Appendix B).

Additional information about identified MNES is provided throughout this section and in Appendix B.

Table 4.2: Summary of matters of national environmental significance within the Operational Area

MNES	Number	Relevant section
World Heritage Properties	0	N/A
National Heritage Places	0	Section 4.5.2
Wetlands of International Importance (Ramsar)	0	N/A
Commonwealth Marine Areas	0	N/A
Listed Threatened Ecological Communities	0	N/A
Listed Threatened Species ¹	12	Section 4.4
Listed Migratory Species ^{1 2}	19	Section 4.4

Note 1: Terrestrial species (such as terrestrial mammals, reptiles, and bird species) that appear in the PMST results of the EMBA and do not have habitats along shorelines are not relevant to the Blacktip drilling activities impacts and risks and have, therefore, not been included in these numbers.


Note 2: The EPBC Act categorise migratory and threatened species independently; therefore, migratory species can also be threatened.

Table 4.3: Summary of matters of national environmental significance within the environment that may be affected

MNES	Number	Relevant section
World Heritage Properties	0	N/A
National Heritage Places	1	Section 4.5.2
Wetlands of International Importance (Ramsar)	1	Section 4.5.3
Commonwealth Marine Areas	1	Section 4.5.1
Listed Threatened Ecological Communities	0	N/A
Listed Threatened Species ¹	32	Section 4.4
Listed Migratory Species ^{1 2}	81	Section 4.4

Note 1: Terrestrial species (such as terrestrial mammals, reptiles, and bird species) that appear in the PMST results of the EMBA and do not have habitats along shorelines are not relevant to the Blacktip drilling activities impacts and risks and have, therefore, not been included in these numbers.

Note 2: The EPBC Act categorise migratory and threatened species independently, therefore migratory species can also be threatened.

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4.3 Regional Setting

The Blacktip WHP is within the JBG, which lies over the Sahul Shelf in the Timor Sea from west of Bathurst Island to the eastern boundary of the North-west Marine Region (Figure 4.2). The JBG is characterised by complex geomorphology, including:


- coastal, shelf and basin features in the JBG
- dissected banks, shoals, valleys, and terraces on the Van Diemen Rise
- deeper areas on the shelf slope to the north of the Van Diemen Rise.

The JBG is an area of soft substrate expanses with localised rocky outcrops, gravel deposits and raised features. Some areas contain high densities of pockmarks and sand waves, and calcarenite subcrops occur in the far northwest in an 11km wide palaeo-channel. Benthic communities are exposed to strong tidal currents, high turbidity, and substantial sediment mobility, with disturbance decreasing offshore. The Operational Area is located in the upper (outer) reaches of the JBG, in an area of relatively flat, featureless seabed. Sediments are predominantly very soft, grey-green, gravelly sand clays (Woodside, 2004).

The Bonaparte Basin, which dominates the western portion of the JBG system, was formed between 15,000 to 13,000 years ago after rapid sea level rise inundated most of the Sahul Shelf, creating fully open marine conditions within the area known as the Bonaparte Depression. During the late quaternary, the environment of the Bonaparte Depression varied with fluctuating sea levels and climatic conditions, from an estuarine embayment to a shallow, freshwater lake. Extensive palaeo-river channels, some up to 150km long, 5km wide and 240m deep, connect the present-day basin to the old shoreline at the edge of the shelf (Heyward *et al.*, 1997).

The JBG has been included in several continent-scale habitat classifications. The most recent being the Commonwealth bioregionalisation (IMCRA 4.0) which places most of the JBG into a single provincial bioregion the Northwest Shelf Transition. IMCRA further classifies Australia's marine regions into smaller meso-scale bioregions, five of which overlap the JBG.

The seabed and benthic habitats relevant to the Operational Area and EMBA are further described in Appendix B.

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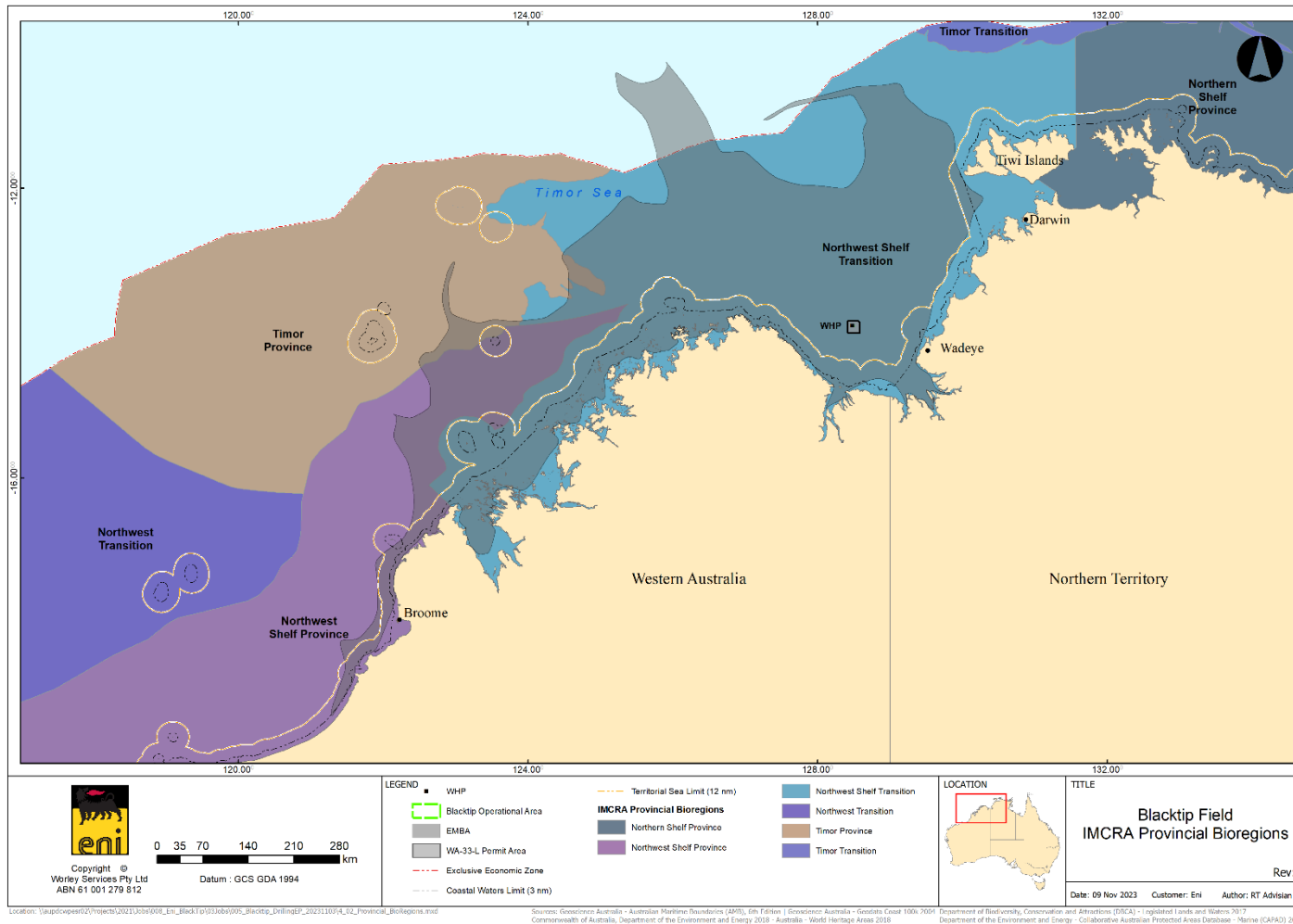



Figure 4.2: Provincial bioregions within the Operational Area and environment that may be affected

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4.4 Threatened and Migratory Species and Ecological Communities

A search of the EPBC PMST was undertaken using areas that covered the full extent of the Operational Area and EMBA, respectively, to identify MNES under the EPBC Act. Full PMST Reports for the Operational Area and EMBA are included in Appendix B. The PMST results identified 12 marine fauna species listed as 'threatened' and 19 marine fauna species listed as 'migratory' within the Operational Area. In the EMBA, there were 32 'threatened' and 81 'migratory' species identified (Table 4.4). All species listed as 'threatened' under the EPBC Act are also 'Protected' under State legislation under the Biodiversity Conservation Act 2016. The identified threatened and migratory species are fully described in Appendix B.

An examination of the species profile and threats database (DCCEE, 2023a) showed some threatened species were not expected to occur in significant numbers in the marine and coastal environments (within the EMBA) due to their terrestrial distributions. Terrestrial species (such as terrestrial mammals, reptiles and bird species) that appear in the PMST of the EMBA and do not have habitats along shorelines are not relevant to the Blacktip drilling activities impacts and have been excluded from Table 4.4.

Species with designated BIAs and Habitat Critical to their Survival (Habitat Critical) overlapping the EMBA and Operational Area have been identified in Section 4.4.1 and Section 4.4.2, respectively.




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Table 4.4: Commonwealth listed threatened and migratory species within the Operational Area and environment that may be affected

Scientific name	Common name	EPBC status	Presence in Operational Area	Presence in EMBA
Marine Mammals				
<i>Balaenoptera borealis</i>	Sei whale	Migratory/Vulnerable	Species or species habitat may occur within area	Species or species habitat likely to occur within area
<i>Balaenoptera edeni</i>	Bryde's whale	Migratory	Species or species habitat may occur within area	Species or species habitat likely to occur within area
<i>Balaenoptera musculus</i>	Blue whale	Migratory/Endangered	Species or species habitat may occur within area	Migration route known to occur within area
<i>Balaenoptera physalus</i>	Fin whale	Migratory/Vulnerable	Species or species habitat may occur within area	Species or species habitat likely to occur within area
<i>Dugong dugon</i>	Dugong	Migratory	Species or species habitat may occur within area	Migration route known to occur within area
<i>Megaptera novaeangliae</i>	Humpback whale	Migratory	Species or species habitat likely to occur within area	Breeding known to occur within area
<i>Orcaella heinsohni</i>	Australian snubfin dolphin	Migratory	N/A	Species or species habitat known to occur within area
<i>Orcinus orca</i>	Killer whale	Migratory	Species or species habitat may occur within area	Species or species habitat may occur within area
<i>Physeter macrocephalus</i>	Sperm whale	Migratory	N/A	Species or species habitat may occur within area
<i>Sousa sahalensis</i>	Australian humpback dolphin	Migratory	N/A	Breeding known to occur within area
<i>Tursiops aduncus</i> (Arafura/Timor Sea populations)	Spotted bottlenose dolphin	Migratory	Species or species habitat likely to occur within area	Species or species habitat known to occur within area

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Scientific name	Common name	EPBC status	Presence in Operational Area	Presence in EMBA
Marine Reptiles				
<i>Aipysurus apraefrontalis</i>	Short-nosed sea snake	Critically Endangered	N/A	Species or habitat likely to occur
<i>Aipysurus foliosquama</i>	Leaf-scaled sea snake	Critically Endangered	N/A	Species or species habitat may occur within area
<i>Caretta</i>	Loggerhead turtle	Migratory/Endangered	Species or species habitat likely to occur within area	Foraging, feeding or related behaviour known to occur within area
<i>Chelonia mydas</i>	Green turtle	Vulnerable/Migratory	Species or species habitat known to occur within area	Breeding known to occur within area
<i>Crocodylus porosus</i>	Saltwater crocodile	Migratory	Species or habitat likely to occur	Species or habitat likely to occur
<i>Dermochelys coriacea</i>	Leatherback turtle	Migratory/Endangered	Species or species habitat likely to occur within area	Breeding likely to occur within area
<i>Eretmochelys imbricata</i>	Hawksbill turtle	Migratory/Vulnerable	Species or species habitat likely to occur within area	Foraging, feeding or related behaviour known to occur within area
<i>Lepidochelys olivacea</i>	Olive ridley turtle	Migratory/Endangered	Species or species habitat known to occur within area	Foraging, feeding or related behaviour known to occur within area
<i>Natator depressus</i>	Flatback turtle	Migratory/Vulnerable	Congregation or aggregation known to occur within area	Breeding known to occur within area
Fish, Sharks and Rays				
<i>Anoxypristis cuspidata</i>	Narrow sawfish	Migratory	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	Migratory	Species or species habitat may occur within area	Species or species habitat may occur within area
<i>Carcharodon carcharias</i>	Great white shark	Migratory/Vulnerable	Species or species habitat may occur within area	Species or species habitat may occur within area
<i>Glyphis garricki</i>	Northern river shark	Migratory/Endangered	Species or species habitat may occur within area	Breeding known to occur within area

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<i>Glyphis glyphis</i>	Speartooth shark	Critically Endangered	Species or species habitat may occur within area	Species or species habitat may occur within area
<i>Isurus oxyrinchus</i>	Shortfin mako	Migratory	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
<i>Isurus paucus</i>	Longfin mako	Migratory	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
<i>Mobula alfredi</i>	Reef manta ray	Migratory	Species or species habitat likely to occur within area	Species or species habitat known to occur within area
<i>Mobula birostris</i>	Giant manta ray	Migratory	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
<i>Pristis clavata</i>	Dwarf sawfish	Migratory/Vulnerable	Species or species habitat known to occur within area	Breeding known to occur within area
<i>Pristis pristis</i>	Freshwater sawfish	Migratory/Vulnerable	Species or species habitat may occur within area	Species or species habitat known to occur within area
<i>Pristis zijsron</i>	Green sawfish	Migratory/Vulnerable	Species or species habitat known to occur within area	Breeding known to occur within area
<i>Rhincodon typus</i>	Whale shark	Migratory/Vulnerable	Species or species habitat may occur within area	Foraging, feeding or related behaviour known to occur within area
<i>Sphyrna lewini</i>	Scalloped hammerhead	Conservation Dependent	Species or species habitat likely to occur within area	Species or species habitat known to occur within area
<i>Thunnus maccoyii</i>	Southern bluefin tuna	Conservation Dependent	N/A	Breeding known to occur within area
Birds				
<i>Acrocephalus orientalis</i>	Oriental reed-warbler	Migratory	N/A	Species or species habitat known to occur within area
<i>Actitis hypoleucos</i>	Common sandpiper	Migratory	Species or species habitat may occur within area	Species or species habitat known to occur within area



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<i>Anous stolidus</i>	Common noddy	Migratory	Species or species habitat may occur within area	Species or species habitat likely to occur within area
<i>Anous tenuirostris melanops</i>	Australian lesser noddy	Vulnerable	N/A	Breeding known to occur within area
<i>Apus pacificus</i>	Fork-tailed swift	Migratory	N/A	Species or species habitat likely to occur within area
<i>Calidris acuminata</i>	Sharp-tailed sandpiper	Migratory	Species or species habitat may occur within area	Roosting known to occur within area
<i>Calidris alba</i>	Sanderling	Migratory	N/A	Roosting known to occur within area
<i>Calidris canutus</i>	Red knot	Migratory/Endangered	Species or species habitat may occur within area	Species or species habitat known to occur within area
<i>Calidris ferruginea</i>	Curlew sandpiper	Migratory/Critically Endangered	Species or species habitat may occur within area	Species or species habitat known to occur within area
<i>Calidris melanotos</i>	Pectoral sandpiper	Migratory	Species or species habitat may occur within area	Species or species habitat known to occur within area
<i>Calidris ruficollis</i>	Red-necked stint	Migratory	N/A	Roosting known to occur within area
<i>Calidris tenuirostris</i>	Great knot	Migratory/Critically Endangered	N/A	Roosting known to occur within area
<i>Calonectris leucomelas</i>	Streaked shearwater	Migratory	Species or species habitat likely to occur within area	Species or species habitat known to occur within area
<i>Cecropis daurica</i>	Red-rumped swallow	Migratory	N/A	Species or species habitat may occur within area
<i>Charadrius leschenaultii</i>	Greater sand plover	Migratory/Vulnerable	N/A	Species or species habitat known to occur within area
<i>Charadrius mongolus</i>	Lesser sand plover	Migratory/Endangered	N/A	Roosting known to occur within area
<i>Charadrius veredus</i>	Oriental plover	Migratory	N/A	Roosting known to occur within area



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<i>Cuculus optatus</i>	Oriental cuckoo	Migratory	N/A	Species or species habitat known to occur within area
<i>Erythrotriorchis radiatus</i>	Red goshawk	Vulnerable	N/A	Species or species habitat known to occur within area
<i>Fregata ariel</i>	Lesser frigatebird	Migratory	Species or species habitat likely to occur within area	Breeding known to occur within area
<i>Fregata minor</i>	Great frigatebird	Migratory	Species or species habitat may occur within area	Species or species habitat likely to occur within area
<i>Gallinago megala</i>	Swinhoe's snipe	Migratory	N/A	Roosting likely to occur within area
<i>Gallinago stenura</i>	Pin-tailed snipe	Migratory	N/A	Roosting likely to occur within area
<i>Glareola maldivarum</i>	Oriental pratincole	Migratory	N/A	Roosting known to occur within area
<i>Hirundo rustica</i>	Barn swallow	Migratory	N/A	Species or species habitat known to occur within area
<i>Hydroprogne caspia</i>	Caspian tern	Migratory	N/A	Breeding known to occur within area
<i>Limicola falcinellus</i>	Broad-billed sandpiper	Migratory	N/A	Roosting known to occur within area
<i>Limnodromus semipalmatus</i>	Asian dowitcher	Migratory	N/A	Species or species habitat known to occur within area
<i>Limosa lapponica</i>	Bar-tailed godwit	Migratory	N/A	Species or species habitat known to occur within area
<i>Limosa lapponica baueri</i>	Nunivak bar-tailed godwit	Vulnerable	N/A	Species or species habitat may occur within area
<i>Limosa lapponica menzbieri</i>	Northern Siberian bar-tailed godwit	Critically Endangered	N/A	Species or species habitat known to occur within area
<i>Limosa limosa</i>	Black-tailed godwit	Migratory	N/A	Roosting known to occur within area
<i>Motacilla cinerea</i>	Grey wagtail	Migratory	N/A	Species or species habitat known to occur within area



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Scientific name	Common name	EPBC status	Presence in Operational Area	Presence in EMBA
<i>Motacilla flava</i>	Yellow wagtail	Migratory	N/A	Species or species habitat known to occur within area
<i>Numenius madagascariensis</i>	Eastern curlew	Migratory/Critically Endangered	Species or species habitat may occur within area	Species or species habitat known to occur within area
<i>Numenius minutus</i>	Little curlew	Migratory	N/A	Roosting known to occur within area
<i>Numenius phaeopus</i>	Whimbrel	Migratory	N/A	Roosting known to occur within area
<i>Onychoprion anaethetus</i>	Bridled tern	Migratory	N/A	Breeding known to occur within area
<i>Pandion haliaetus</i>	Osprey	Migratory	N/A	Breeding known to occur within area
<i>Papasula abbotti</i>	Abbott's booby	Endangered	N/A	Species or species habitat may occur within area
<i>Phaethon lepturus</i>	White-tailed tropicbird	Migratory	Species or species habitat may occur within area	Species or species habitat known to occur within area
<i>Philomachus pugnax</i>	Ruff (reeve)	Migratory	N/A	Roosting known to occur within area
<i>Pluvialis fulva</i>	Pacific golden plover	Migratory	N/A	Roosting known to occur within area
<i>Pluvialis squatarola</i>	Grey plover	Migratory	N/A	Roosting known to occur within area
<i>Rhipidura rufifrons</i>	Rufous fantail	Migratory	N/A	Species or species habitat likely to occur within area
<i>Rostratula australis</i>	Australian painted snipe	Endangered	N/A	Species or species habitat likely to occur within area
<i>Sterna dougallii</i>	Roseate tern	Migratory	N/A	Breeding known to occur within area
<i>Sternula albifrons</i>	Little tern	Migratory	N/A	Breeding known to occur within area
<i>Sula dactylatra</i>	Masked booby	Migratory	N/A	Breeding known to occur within area
<i>Sula leucogaster</i>	Brown booby	Migratory	N/A	Breeding known to occur within area
<i>Sula sula</i>	Red-footed booby	Migratory	N/A	Breeding known to occur within area
<i>Thalasseus bergii</i>	Greater crested tern	Migratory	N/A	Breeding known to occur within area
<i>Tringa brevipes</i>	Grey-tailed tattler	Migratory	N/A	Roosting known to occur within area

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Scientific name	Common name	EPBC status	Presence in Operational Area	Presence in EMBA
<i>Tringa nebularia</i>	Common greenshank	Migratory	N/A	Species or species habitat known to occur within area
<i>Tringa stagnatilis</i>	Marsh sandpiper	Migratory	N/A	Roosting known to occur within area
<i>Tringa totanus</i>	Common redshank	Migratory	N/A	Roosting known to occur within area
<i>Xenus cinereus</i>	Terek sandpiper	Migratory	N/A	Roosting known to occur within area

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4.4.1 Biologically Important Areas

BIAs are those locations where aggregations of members of a species are known to undertake biologically important behaviours, such as breeding, resting, foraging or migration. BIAs have been identified using expert scientific knowledge about species' abundance, distribution, and behaviours. BIAs identified within the Operational Area and EMBA are identified in Table 4.5.


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Table 4.5: Biologically important areas within the Operational Area and environment that may be affected

Species	BIA type	Overlaps Operational Area	Overlaps EMBA	Distance from Operational Area (km)	Figure
Marine Reptiles					
Green turtle	Foraging	Yes	Yes	Overlaps	Figure 4.3
	Nesting	No	Yes	300km west	
	Internesting buffer	No	Yes	28km west	
Flatback turtle	Internesting buffer	No	Yes	8km south	Figure 4.4
	Internesting	No	Yes	160km north-west	
	Foraging	No	Yes	95km north	
Loggerhead turtle	Foraging	No	Yes	100km north	Figure 4.5
Olive ridley turtle	Foraging	Yes	Yes	Overlaps	Figure 4.6
Marine Mammals					
Australian snubfin dolphin	Breeding	No	Yes	100km west	Figure 4.7
	Calving	No	Yes	85km south	
	Foraging (high-density prey)	No	Yes	100km west	
	Resting	No	Yes	130km west	
Indo-Pacific humpback dolphin	Foraging (including high-density prey)	No	Yes	430km south west-west	Figure 4.8
	Foraging	No	Yes	270km west	
	Significant habitat	No	Yes	130km west	
	Breeding	No	Yes	385km south-west	
Indo-Pacific/spotted bottlenose dolphin	Calving	No	Yes	430km south-west	Figure 4.9
	Foraging	No	Yes	560km south-west	-
Dugong	Foraging	No	Yes	640km south-west	-
Humpback whale	Nursing	No	Yes	370km south west-west	Figure 4.10
	Migration (north and south)	No	Yes	750km south-west	



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Species	BIA type	Overlaps Operational Area	Overlaps EMBA	Distance from Operational Area (km)	Figure
Pygmy blue whale	Migration	No	Yes	430km north west-west	
	Distribution	No	Yes	680km south-west	
Fish, Sharks, and Rays					
Dwarf sawfish	Foraging	No	Yes	470km south-west	-
	Nursing	No	Yes	600km south-west	-
	Juvenile	No	Yes	650km south-west	-
Freshwater sawfish	Foraging	No	Yes	614km south-west	-
Green sawfish	Foraging	No	Yes	470km south-west	-
	Pupping	No	Yes	650km south-west	-
	Nursing	No	Yes	900km south-west	-
Whale shark	Foraging	No	Yes	280km west	Figure 4.11
Seabirds and Shorebirds					
Lesser crested tern	Breeding	No	Yes	55km south west-west	Figure 4.12
Lesser frigate bird	Breeding	No	Yes	180km west	
Roseate tern	Breeding	No	Yes	180km west	
Brown booby	Breeding	No	Yes	400km south west-west	
Greater frigatebird	Breeding	No	Yes	490km south west-west	
Little tern	Breeding	No	Yes	270km west	
	Resting	No	Yes	560km south-west	
Red-footed booby	Breeding	No	Yes	500km south west-west	
Wedge-tailed shearwater	Breeding	No	Yes	600km north west-west	
White-tailed tropicbird	Breeding	No	Yes	600km north west-west	



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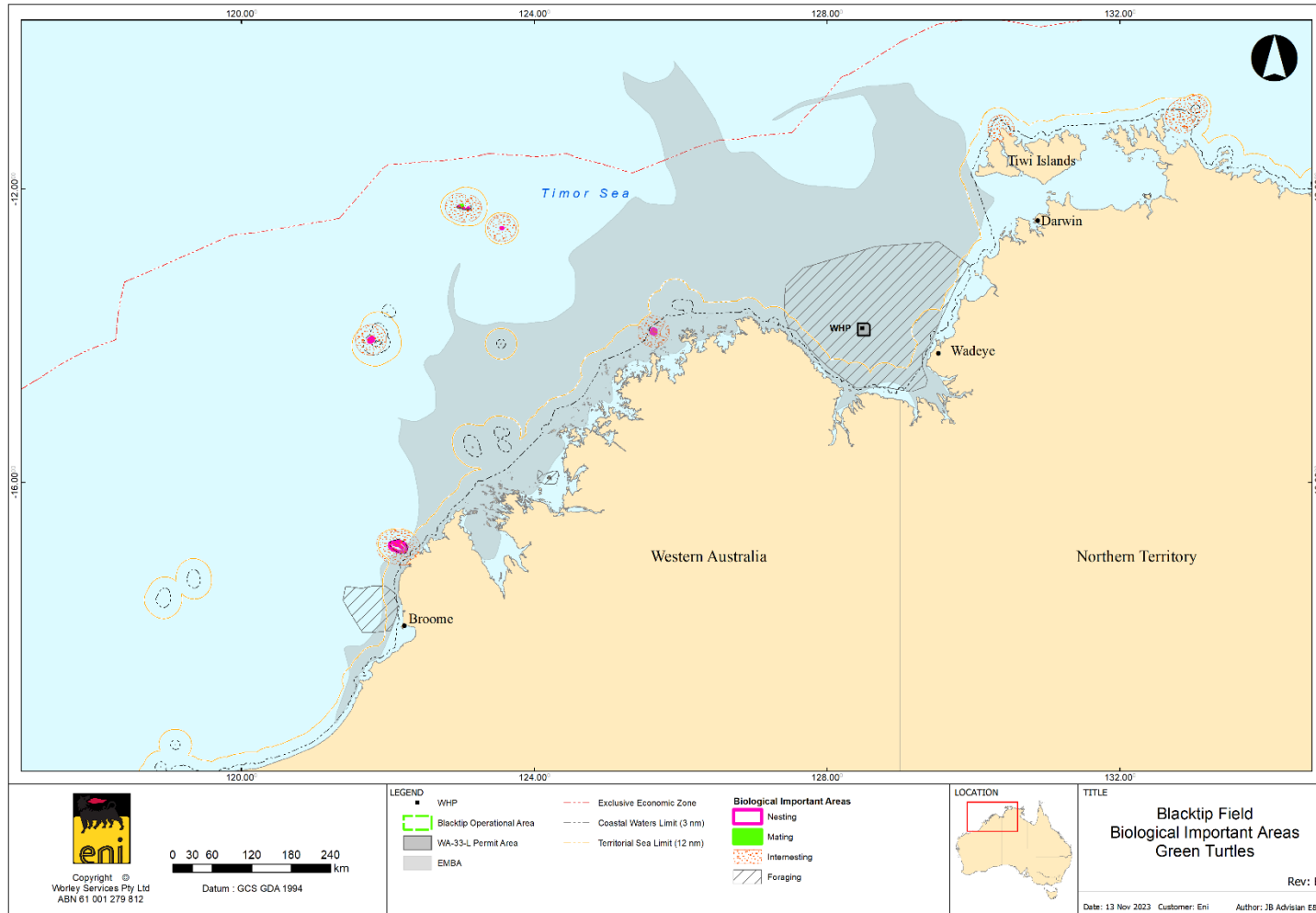


Figure 4.3: Biologically important areas for the green turtle within the environment that may be affected



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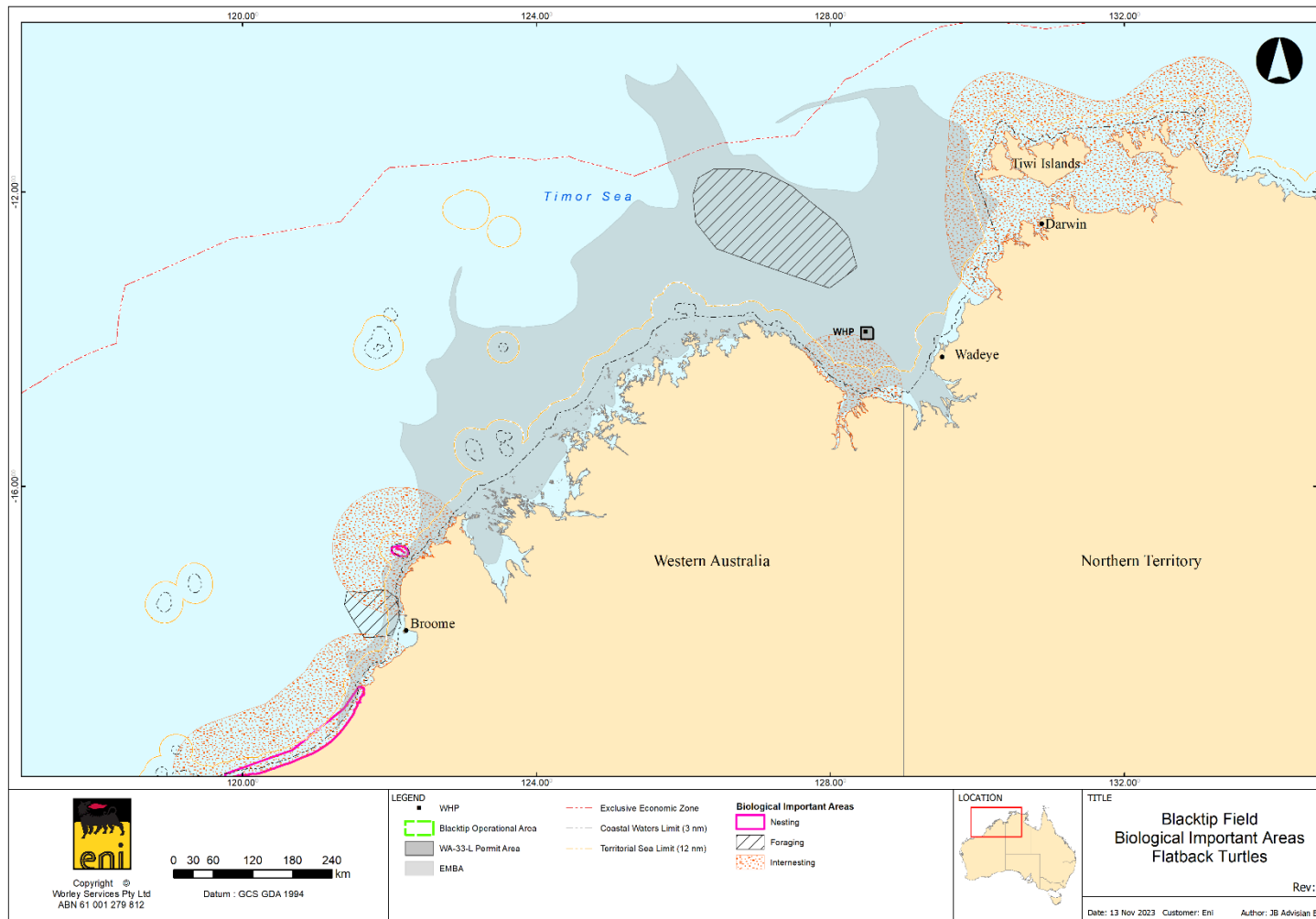


Figure 4.4: Biologically important areas for the flatback turtle within the environment that may be affected3



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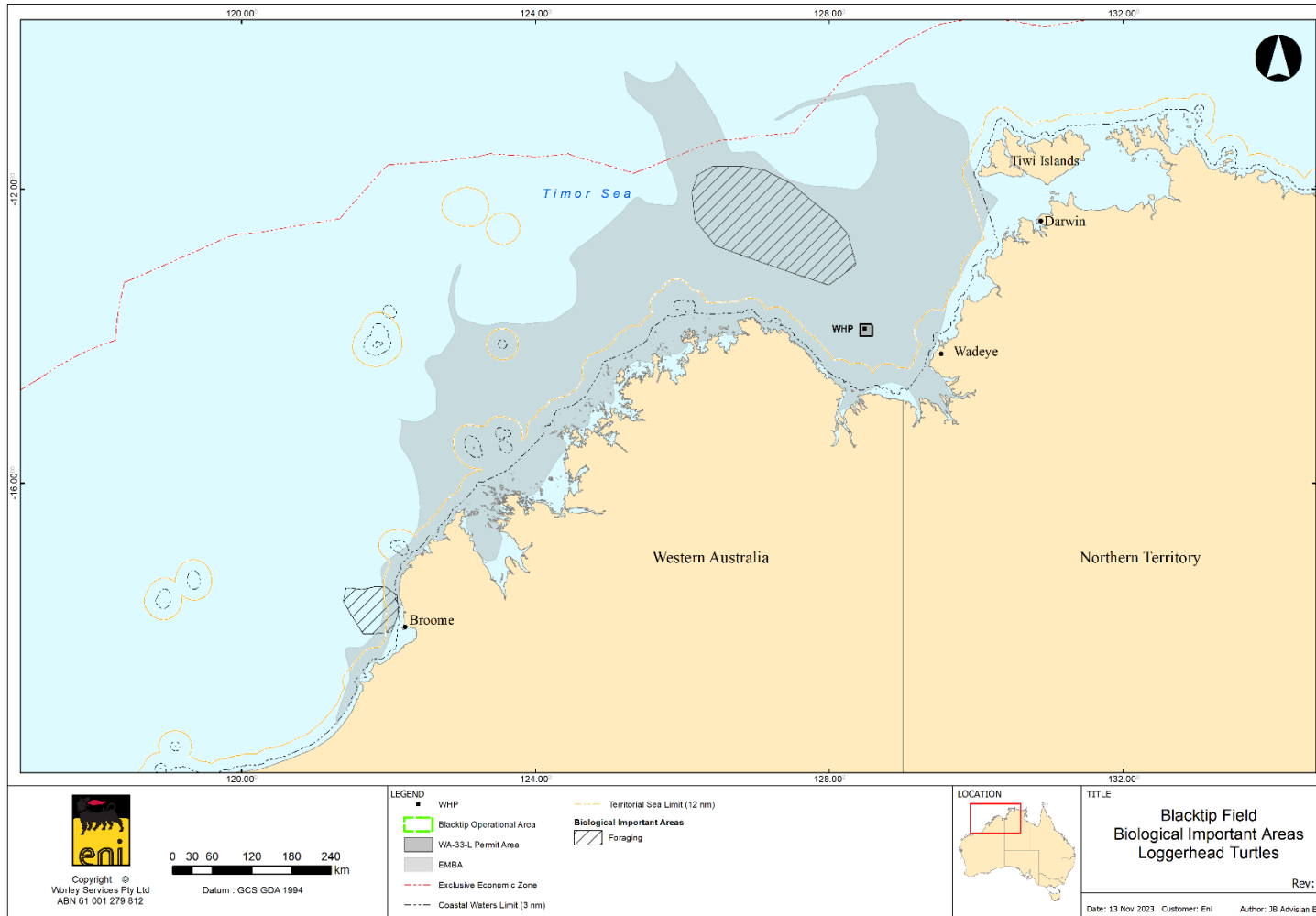


Figure 4.5: Biologically important areas for the loggerhead turtle within the environment that may be affected



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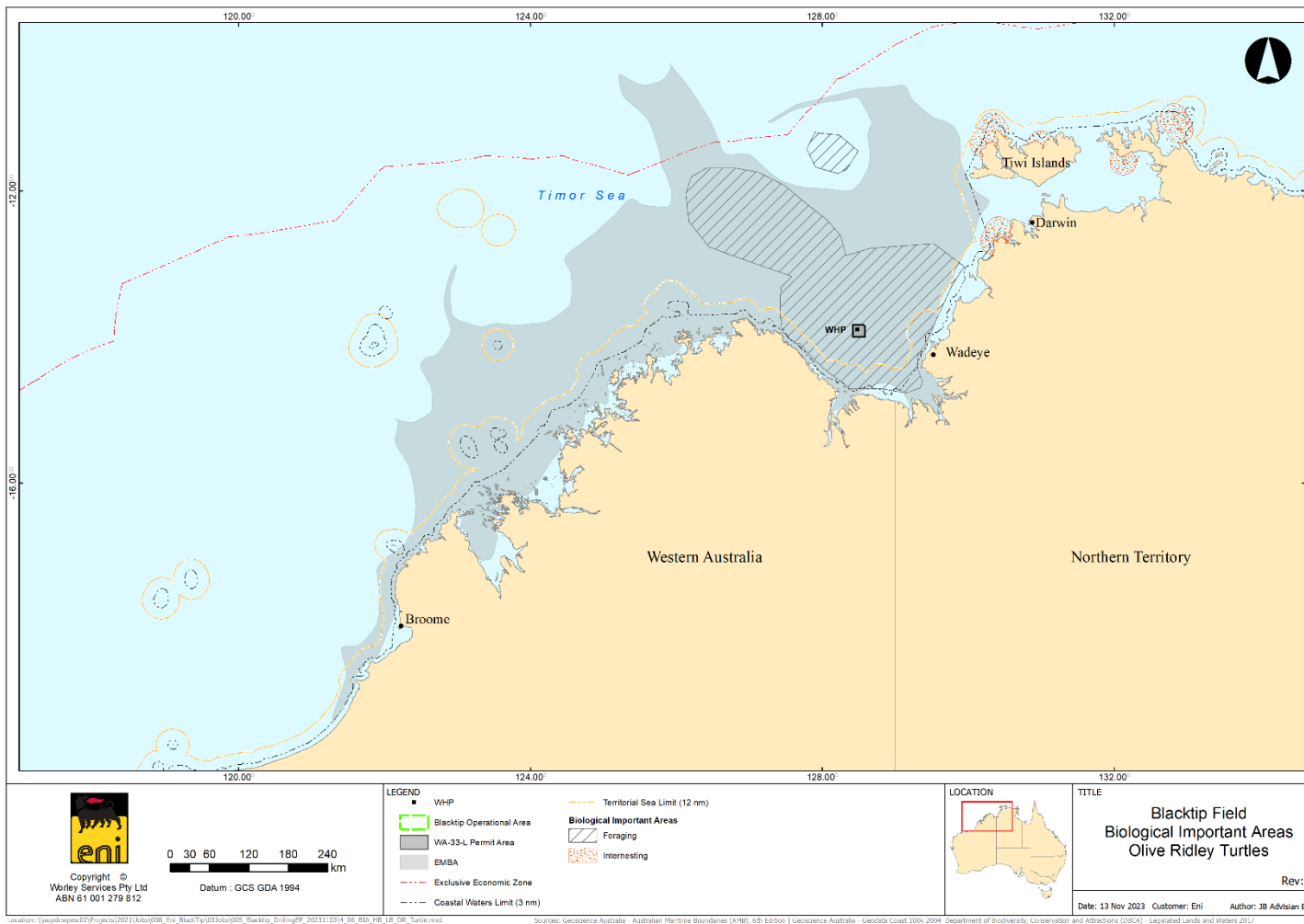


Figure 4.6: Biologically important areas for the olive ridley turtle within the environment that may be affected



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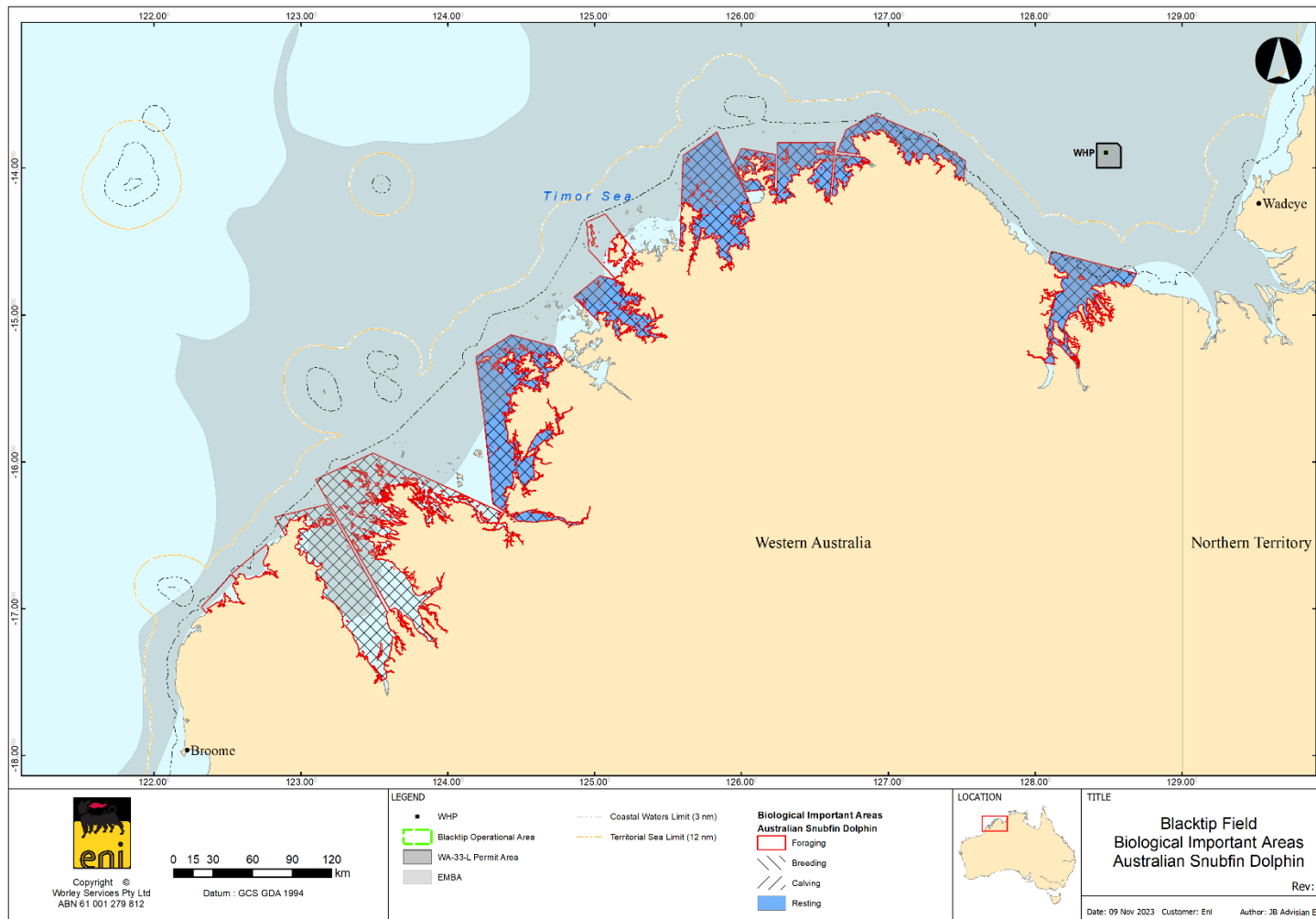



Figure 4.7: Biologically important areas for the Australian snubfin dolphin within the environment that may be affected

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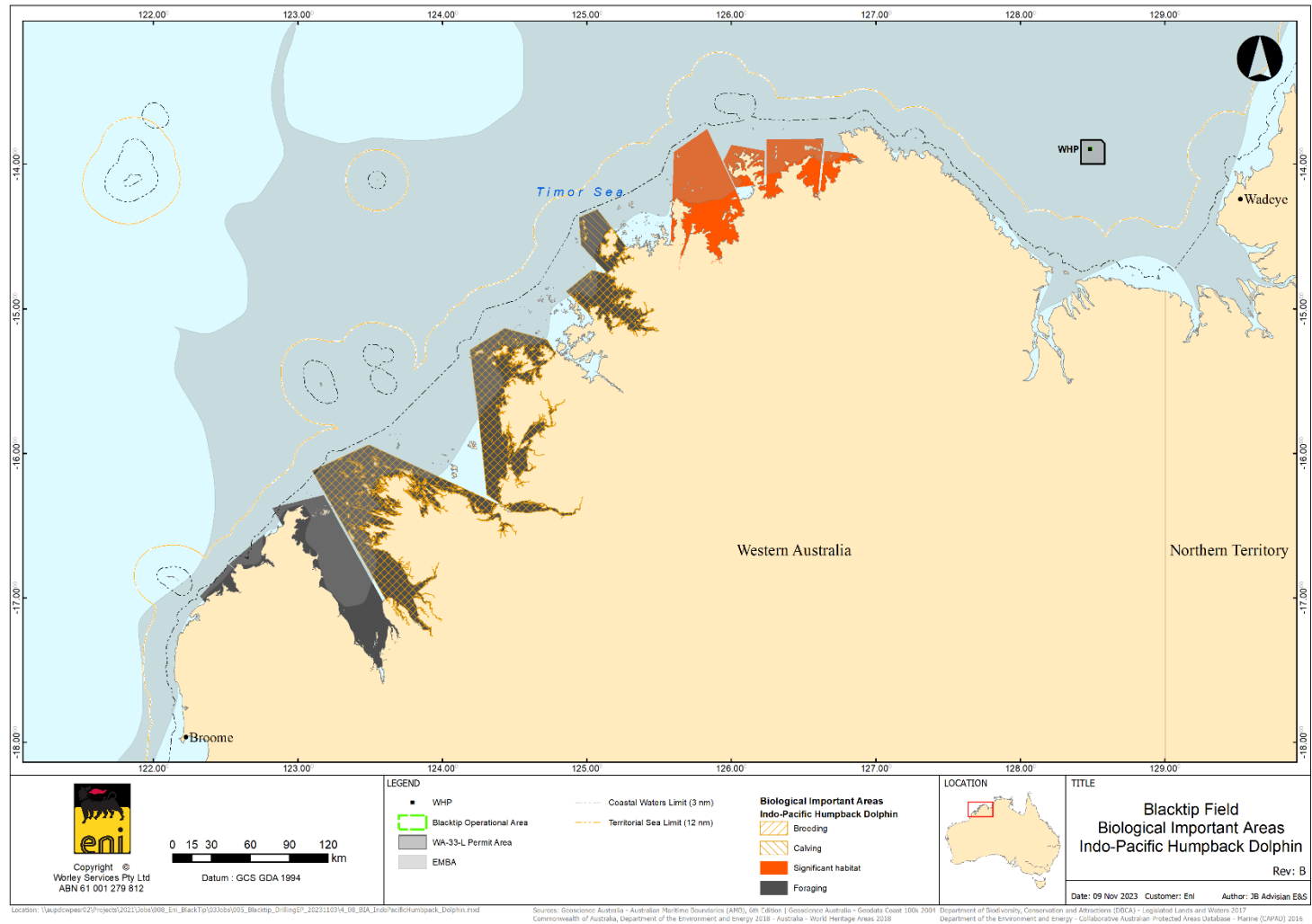


Figure 4.8: Biologically important areas for the Indo-Pacific humpback dolphin within the environment that may be affected



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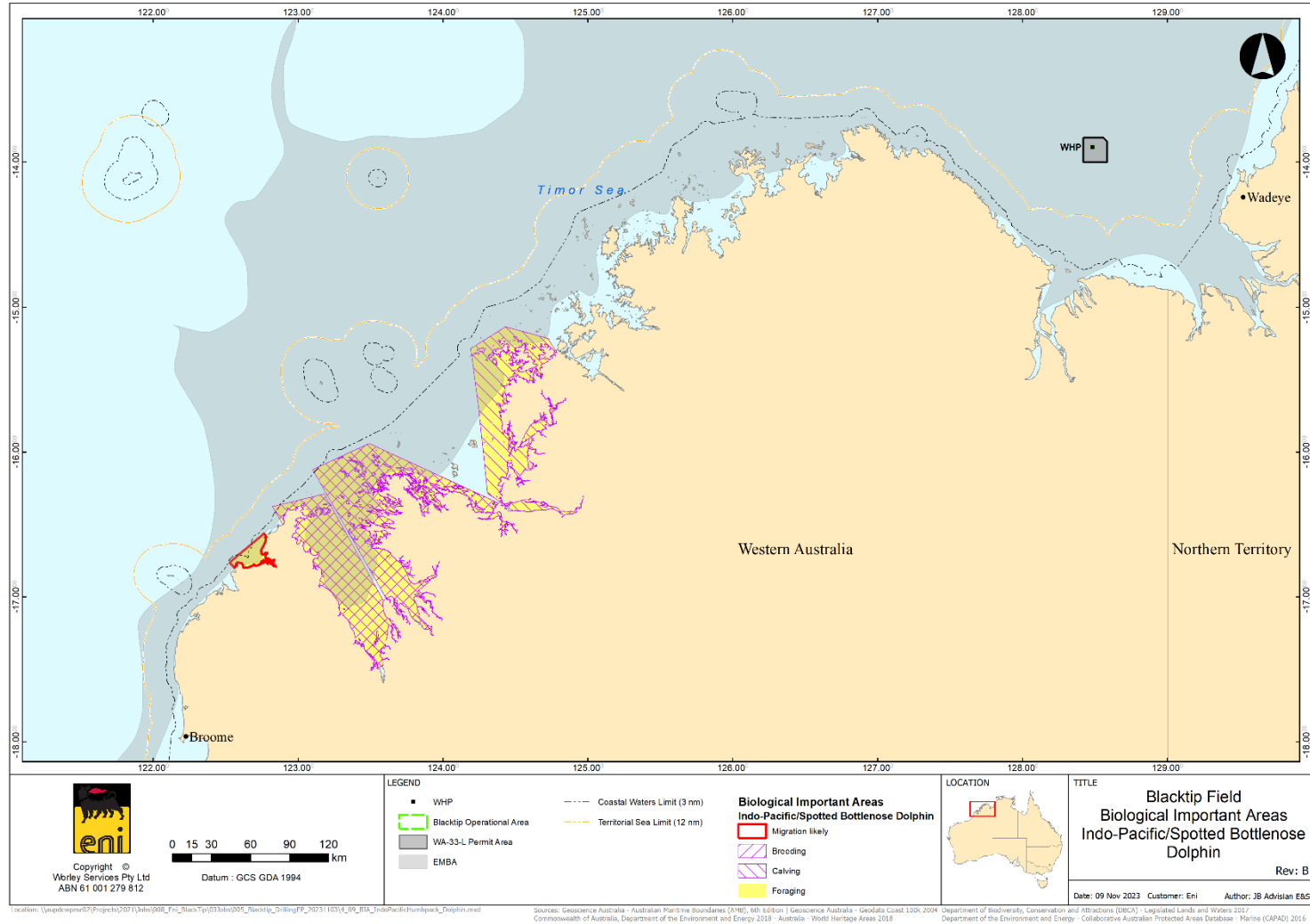


Figure 4.9: Biologically important areas for the Indo-Pacific/spotted bottlenose dolphin



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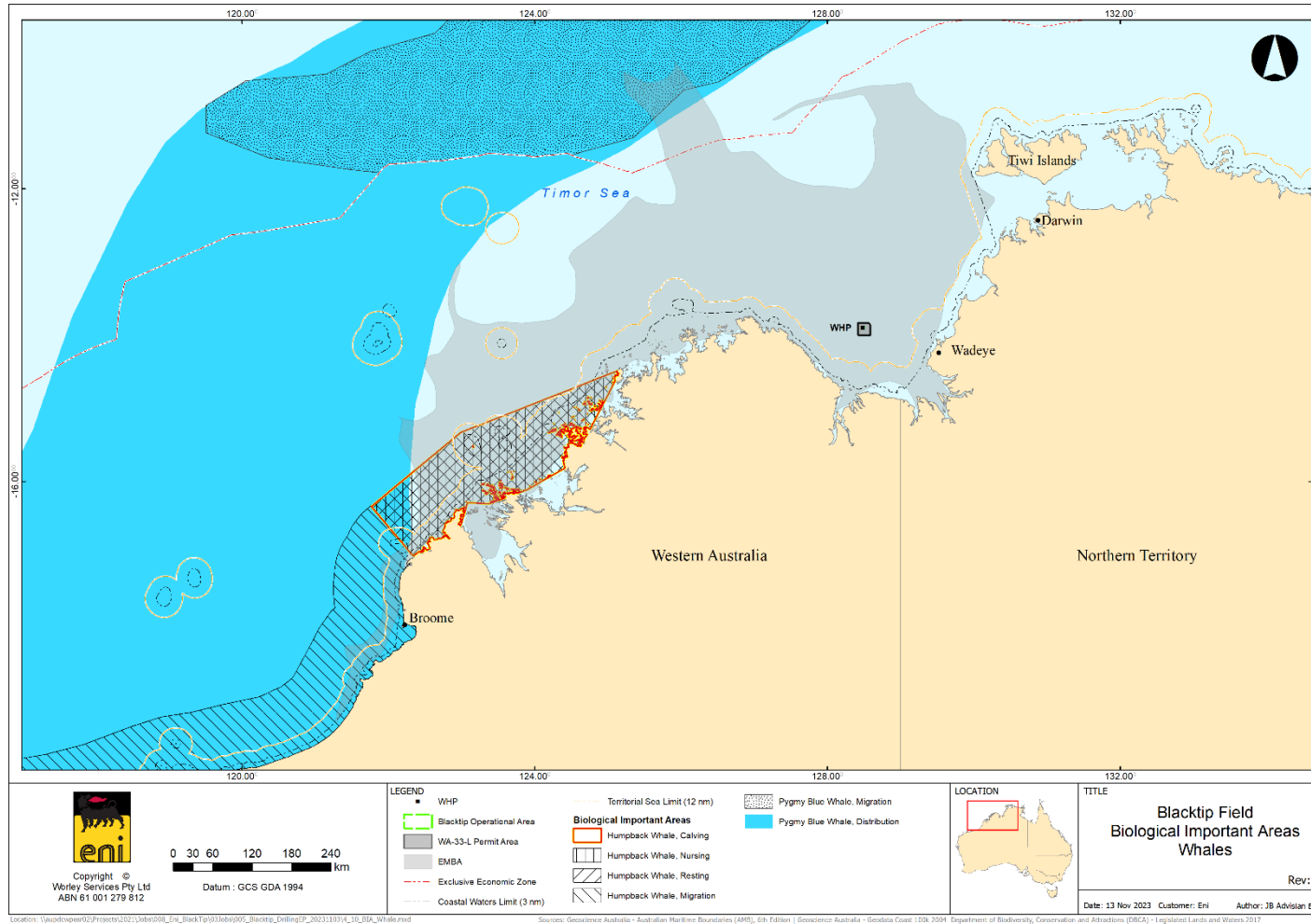


Figure 4.10: Biologically important areas for whales within the environment that may be affected



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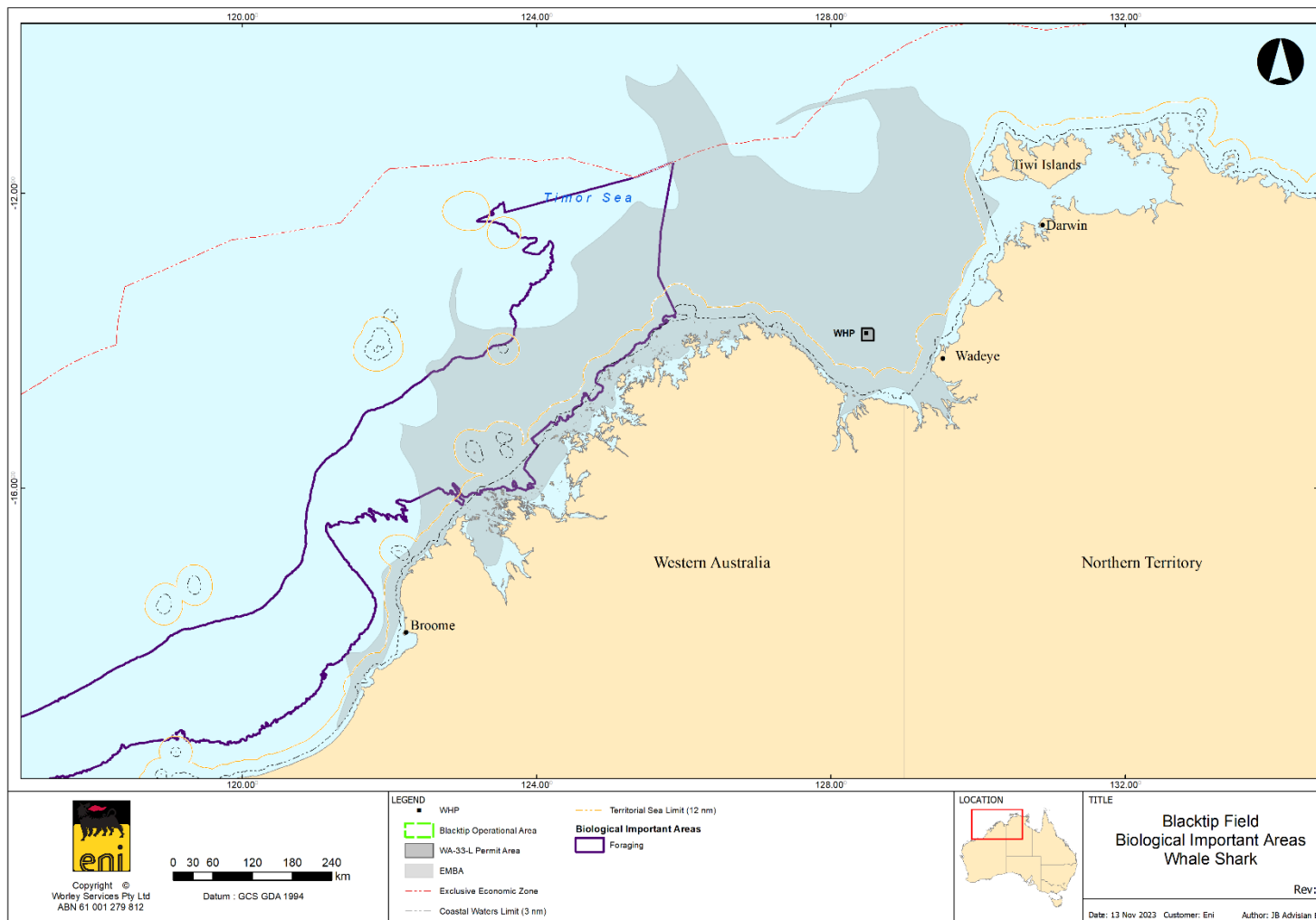


Figure 4.11: Biologically important areas for whale shark within the environment that may be affected



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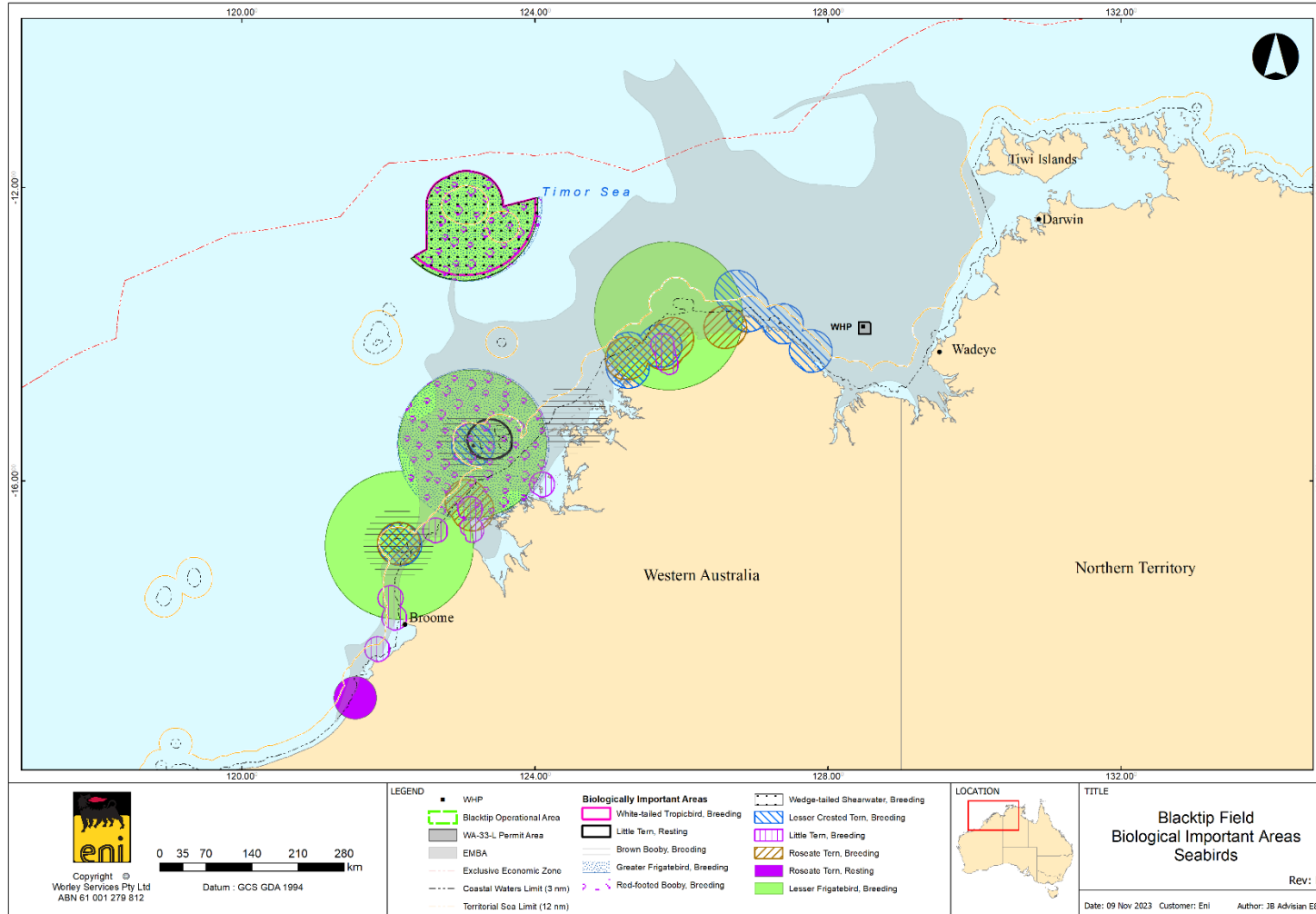



Figure 4.12: Biologically important areas for seabird species within the environment that may be affected


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4.4.2 Habitat Critical to the Survival of Marine Turtles

No habitat critical to the survival of marine turtles is present in the Operational Area; those identified in the EMBA are listed in Table 4.6 and shown in Figure 4.13.

Table 4.6: Habitat critical to the survival of marine turtles within the environment that may be affected

Species	Habitat Type	Overlaps Operational Area	Overlaps EMBA	Distance from Operational Area (km)
Marine Reptiles				
Green turtle	Nesting	No	Yes	220km west
Flatback turtle	Nesting	No	Yes	30km south
Olive ridley	Nesting	No	Yes	445km south west-west

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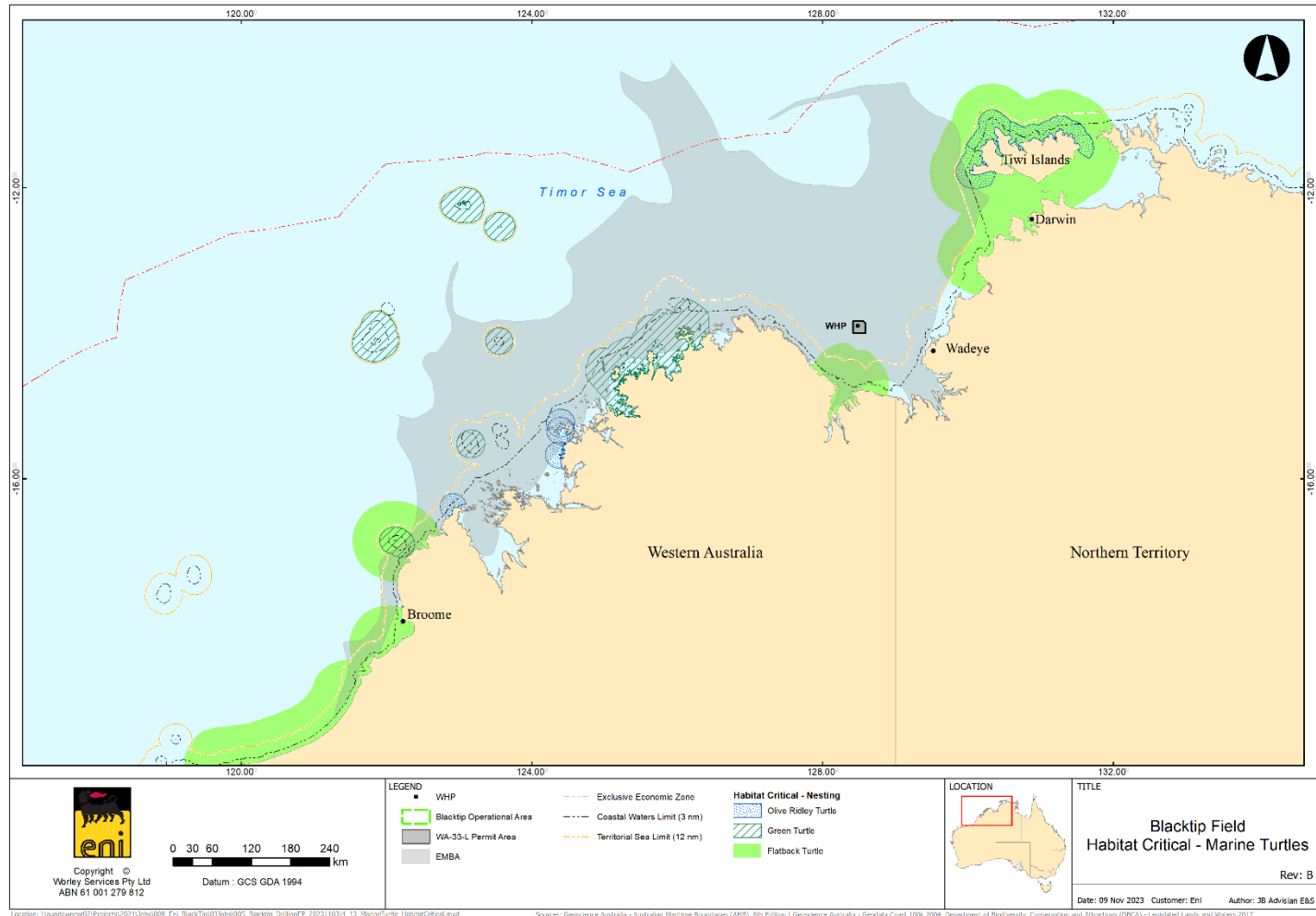



Figure 4.13: Critical habitat for the olive ridley, green and flatback turtle within the environment that may be affected

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4.5 Protected and Significant Areas


There are protected areas and key ecological features (KEFs) within the EMBA. These are summarised in Table 4.7 and further described in the next subsections and in Appendix B.

No Threatened ecological communities are overlapped by the Operational Area or EMBA.

No World Heritage Properties are overlapped by the Operational Area or EMBA.

Table 4.7: Protected areas and key ecological features within the Operational Area and environment that may be affected

Key sensitive area	IUCN category	Overlaps Operational Area	Overlaps EMBA	Distance from Operational Area (km)
Australian Marine Parks				
Joseph Bonaparte Gulf Marine Park	VI	No	Yes	50km east
Kimberley Marine Park	II, IV and VI	No	Yes	220km west
Oceanic Shoals Marine Park	IV and VI	No	Yes	140km north
Roebuck Marine Park	VI	No	Yes	815km south-west
Eighty Mile Beach Marine Park	VI	No	Yes	910km south-west
State Marine Protected Areas				
North Kimberley Marine Park	VI	No	Yes	90km south
Lalang gaddam	Not applicable	No	Yes	430km south-west
Eighty Mile Beach Marine Park	Not applicable	No	Yes	965km south-west
Bardi Jawi Gaarra Marine Park	Not applicable	No	Yes	500km southwest
Mayala Marine Park	Not applicable	No	Yes	500km south-west
Key Ecological Features				
Carbonate bank and terrace system of the Sahul Shelf	Not applicable	No	Yes	22km west
Carbonate bank and terrace system of the Van Diemen Rise	Not applicable	No	Yes	215km north
Pinnacles of the Bonaparte Basin	Not applicable	No	Yes	100km north west-west
Ancient coastline at 125m depth contour	Not applicable	No	Yes	400km north west-west
Demersal fish communities	Not applicable	No	Yes	530km west

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4.5.1 State, Territory and Australian Marine Parks

There are no Australian or State Marine Parks or marine protected areas located in the Operational Area. A portion of the GEP, CEP and the SPM overlap the Joseph Bonaparte Gulf AMP Multiple Use Zone (Figure 1.1 and Figure 1.2), which was established after construction of the Blacktip offshore facilities. This infrastructure is managed under the Blacktip Operations EP (000036_DV_PR.HSE.0677.000) and outside the scope of this EP. The closest marine parks to the Operational Area are the Joseph Bonaparte Gulf AMP and North Kimberley AMP (Table 4.7). Australian and State Marine Parks or Marine Protected Areas within the EMBA or within proximity to the Operational Area are presented in Figure 4.14 and Figure 4.15, otherwise further described in Appendix B.

Australian marine parks are divided into management zones and managed in accordance with the North Marine Parks Network Management Plan (DNP, 2018a) and North-West Marine Parks Network Management Plan (DNP, 2018b), as are the KEFs identified in the North Marine Region and the North-West Marine Region. Table 4.8 presents prescriptions and conditions from the North-West and North Marine Parks Network management plans relevant to the activity.

Table 4.8: Prescription and condition from the North-West and North Marine Parks Network management plans relevant to the Blacktip drilling activities

Prescription/condition number	Prescription/condition	Relevant section of EP
4.2.9.8	...actions required to respond to oil pollution incidents, including environmental monitoring and remediation, in connection with mining operations authorised under the OPGGS Act, may be conducted in all zones without an authorisation issued by [DNP], provided that the actions are taken in accordance with an environment plan that has been accepted by NOPSEMA, and [DNP] is notified in the event of oil pollution within a marine park, or where an oil spill response action must be taken within a marine park, so far as reasonably practicable, prior to response action being taken.	Section 5 (Stakeholder Consultation) Section 10.8 (External Reporting)

Given the Operational Area is 50km to the east of the Joseph Bonaparte Gulf AMP, an assessment of the consistency of the Blacktip drilling activities against the values of the Joseph Bonaparte Gulf AMP, as identified in the Australian Marine Parks North Network Management Plan (DNP, 2018a), has been made in Table 4.9. Appendix B further describes the cultural, socioeconomic, and natural values of the Joseph Bonaparte Gulf AMP and those of other AMPs within the EMBA with reference to relevant State or Joint Marine Park Management Plans.


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Table 4.9: Assessment of Blacktip drilling activities against the values of the Joseph Bonaparte Marine Park

Value	Assessment
Natural Values	<p>The key ecological feature in the AMP is the carbonate bank and terrace system of the Sahul Shelf, characterised by terraces, banks, channels and valleys that support sponges, soft corals, sessile filter feeders, polychaetes and ascidians. However, these features have not been observed within the Operational Area. The Operational Area is located in the upper (outer) reaches of the JBG, in an area of relatively flat, featureless seabed. Sediments are predominantly very soft, grey-green, gravelly sand clays (Woodside, 2004). The nearest feature of the carbonate bank and terrace system of the Sahul Shelf KEF is 20km to the south-east of the Operational Area</p> <p>In the event of a hydrocarbon release, the features may be impacted from entrained hydrocarbons; however, the high evaporation and light components of the condensate and MDO will reduce the entrainment volume within the water column.</p> <p>The JBG experiences a mixed semidiurnal tide with a very large range in tidal elevations and correspondingly strong tidal currents (Przeslawski <i>et al.</i>, 2011). High-energy tidal currents along much of the coastline stimulate mixing and sediment movement throughout the year, contributing to the highly turbid environment which will further evaporation and dispersion of hydrocarbons (refer Section 8.6).</p> <p>The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging habitat for marine turtles and the Australian snubfin dolphin. Impacts to the range of species which the AMP supports has been discussed throughout Sections 7 and 8.</p>
Cultural Values	<p>The Miriuwung, Gajerrong, Doolboong, Wardenybung and Gija and Balangarra people have responsibilities for Sea Country in the AMP (DNP, 2018a). Sea Country is valued for First Nations cultural identity, health and wellbeing. Across Australia, First Nations people have been sustainably using and managing their Sea Country for tens of thousands of years.</p> <p>Eni Blacktip drilling activities will not significantly impact cultural values of the AMP, discussed where relevant throughout Sections 7 and 8.</p> <p>Eni has consulted Traditional Owner groups when developing this EP (refer Section 5).</p> <p>In the event of a large-scale spill, there will be an impact to Sea Country within the AMP for a period, while the spill disperses and weathers. Impacts to the range of species to which Traditional Owner groups may have cultural connections has been discussed in Table 8.13, refer Section 8.6. Lasting impact is not anticipated.</p>
Socioeconomic Values	<p>Tourism, commercial fishing, and recreation including fishing are important activities in the AMP. Blacktip drilling activities will not impact the ability of others to utilise the AMP (refer Section 7.1).</p> <p>As described above, a large-scale spill will impact the AMP for a short period, while the hydrocarbon disperses and weathers; however, lasting impact is not anticipated.</p> <p>Impacts have been discussed further in Table 8.13, refer Section 8.6.</p>



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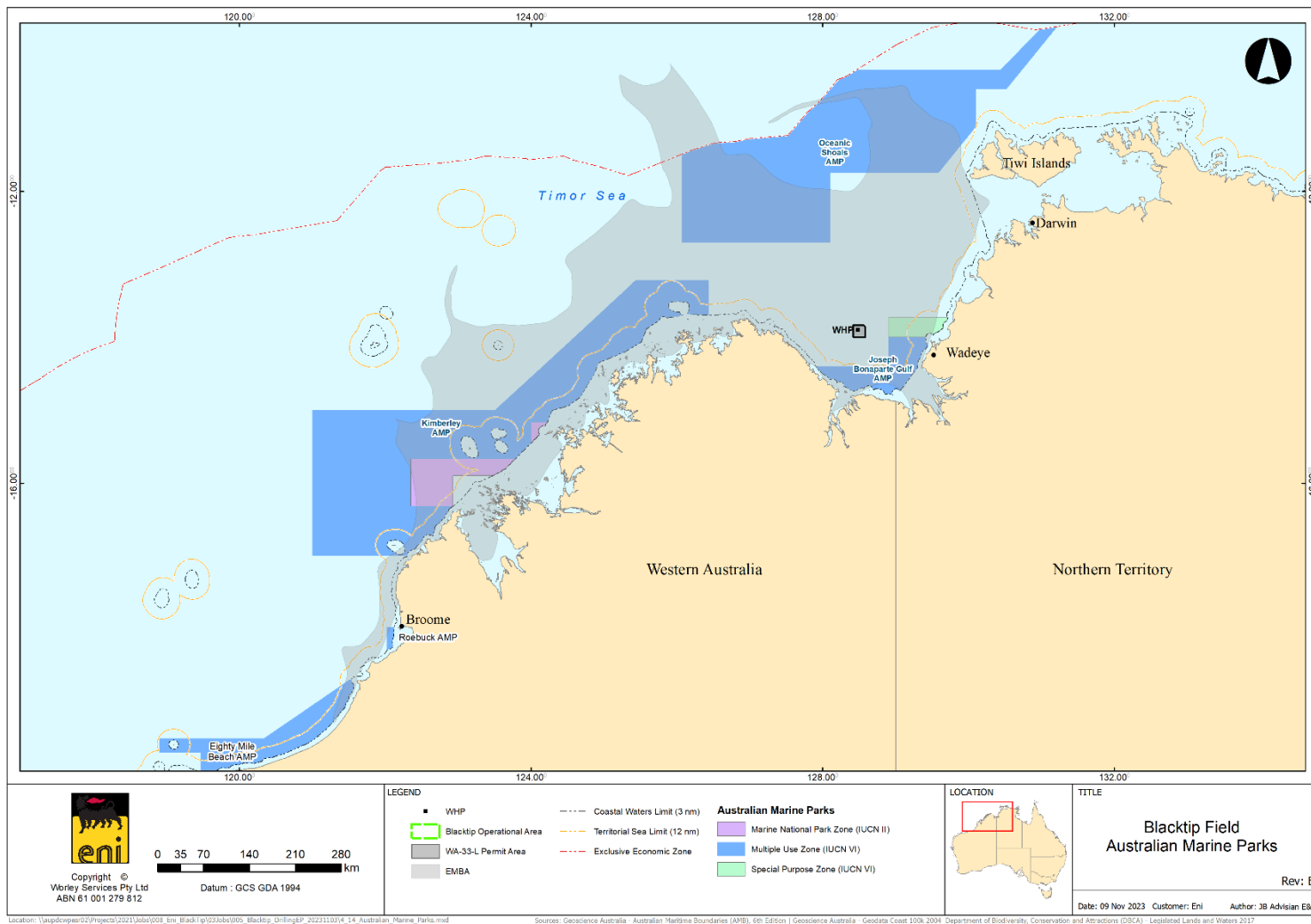


Figure 4.14: Australian Marine Parks within the Operational Area and environment that may be affected



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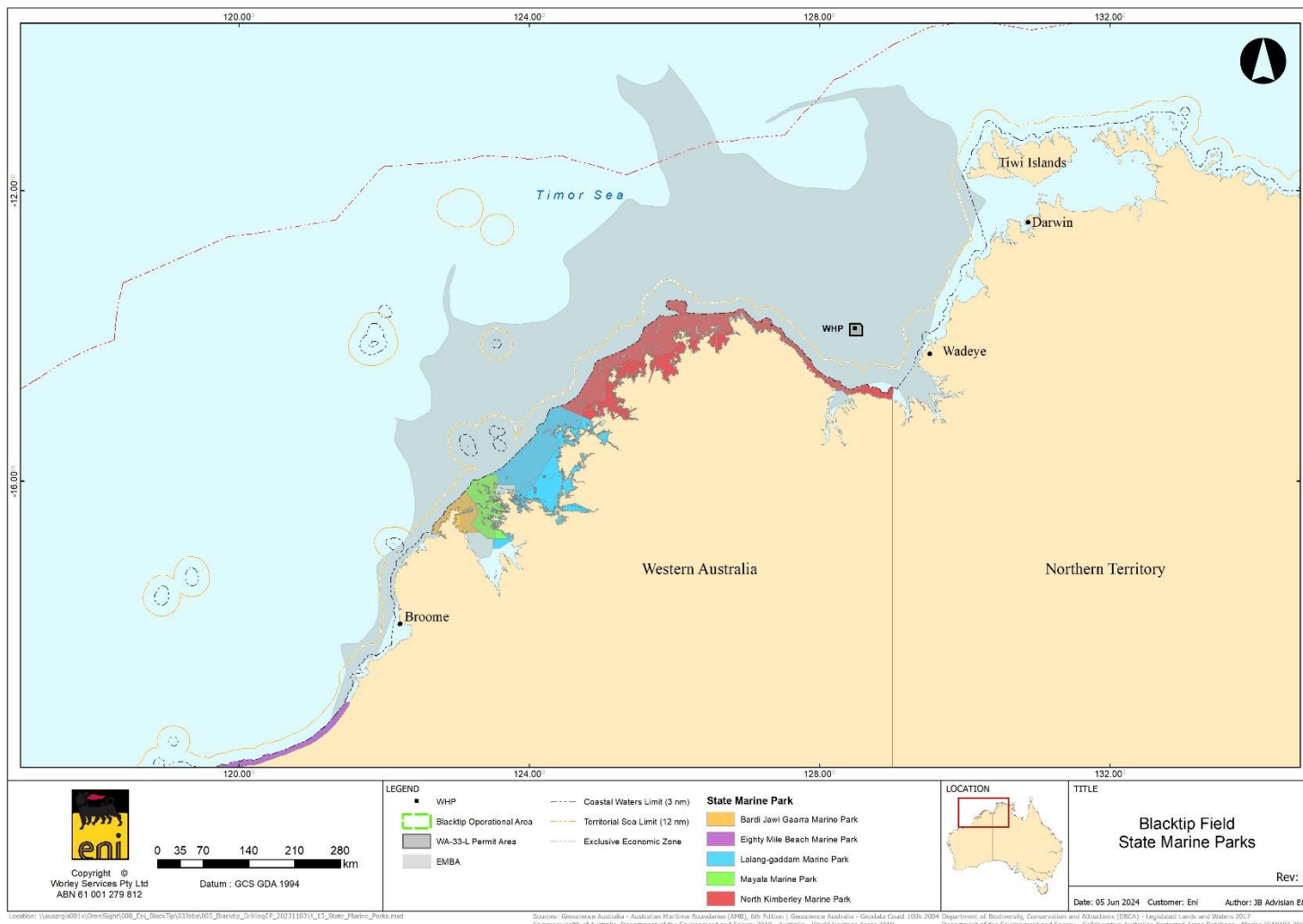



Figure 4.15: State Marine Parks within the Operational Area and environment that may be affected

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4.5.2 National Heritage Places

The West Kimberley National Heritage Place is located 80km south-west of the Operational Area. The West Kimberley is listed as a National Heritage Place as it includes natural landscape features, ancient geology, biological richness, Aboriginal and European heritage, historical pastoral values, and Aboriginal and European pearling values. The Kimberley intertidal shoreline, which is part of the Heritage Place, is described further in Appendix B.

4.5.3 Ramsar Wetlands


While the EMBA PMST search returned three Ramsar wetlands (Eighty-Mile Beach, Ord River floodplain, Roebuck Bay), these have been determined to be outside the EMBA.

4.5.4 Key Ecological Features

KEFs are those components of the marine ecosystem that are important for biodiversity or the ecosystem function and integrity of a Commonwealth marine area. The Operational Area does not overlap any KEFs. The EMBA overlaps five KEFs, being:

- carbonate bank and terrace system of the Sahul Shelf
- pinnacles of the Bonaparte Basin
- carbonate bank and terrace system of the Van Diemen Rise
- ancient coastline at 125m depth contour
- demersal fish communities.

All KEFs within the EMBA are shown in Figure 4.16 and further described in Appendix B.

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4.6 Cultural and Socioeconomic Environment

4.6.1 Commercial Fisheries

Table 4.10 identifies the Commonwealth and State commercial fisheries overlapping the Operational Area and EMBA and provides an assessment of the potential interaction based on the nature of the fishery and historic Department of Primary Industry, Resources and Development (DPIRD) catch data. Information within Table 4.10 about fisheries has been summarised from the Status reports of the fisheries and aquatic resources of Western Australia 2021/22 (Newman *et al.*, 2023) and Fishery status reports 2022 (Patterson *et al.*, 2022).

The jack-up MODU is positioned adjacent to the Blacktip WHP (refer Section 3.5). As such, all drilling and workover activities will occur within the existing 500m PSZ, limiting any potential for interaction with commercial fisheries who will avoid the area.

A commercial land-based prawn aquaculture project (Project Sea Dragon) is being progressed by Seafarms Group at Forsyth Creek, approximately 160km from the Operational Area. The EMBA reaches the offshore waters of this location only and shoreline hydrocarbon accumulation is not predicted.

While it is recognised the DPIRD catch data referenced in Table 4.10 does not preclude the possibility for future catch, it is highly unlikely the catch effort will significantly increase in the vicinity of the Operational Area over the life of this EP.


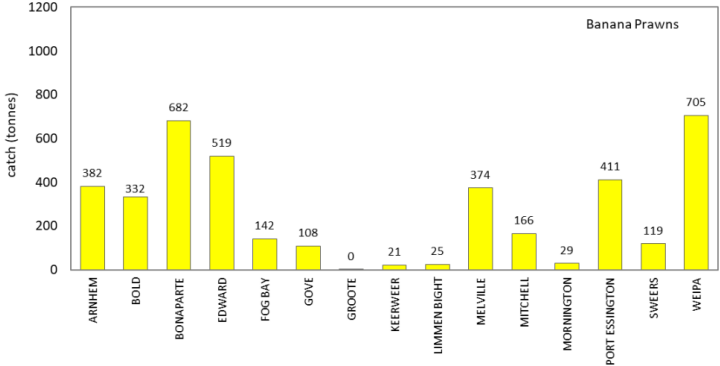


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Table 4.10: Commonwealth and State fisheries within the Operational Area and EMBA


Fishery	Potential for interaction		Description		
	Operational Area	EMBA	✓ = overlap with fishery	shading = possibility for interaction with the Operational Area.	× = no spatial overlap
Commonwealth Managed Fisheries					
Northern Prawn Fishery (NPF)	✓	✓	<p>The Northern Prawn Fishery (NPF) overlaps the Operational Area and EMBA and extends from Cape Londonderry, eastward throughout the EEZ and NT waters, to approximately the Cape York peninsula. The majority of the fishing during the 2020-2022 seasons took place in the inshore coastal NT waters (ABARES, 2023).</p> <p>The Operational Area is located in the Fog Bay area of the Northern Prawn Fishery, which encompasses the eastern part of the JBG. In the Fog Bay over 98% of the catch was banana prawn in 2022 (Meteyard, 2023). Historically effort and catch has been low compared to other areas of the fishery (catch data for 2022 detailed in the figure below). Effort for Banana Prawn was 101 days in 2022 in the Fog Bay area.</p>  <p><i>Source: Meteyard, 2023</i></p> <p>The Blacktip project have operated within the Northern Prawn Fishery area since production started in 2009. Fishing effort occurs within the EMBA, particularly around the western areas of the JBG (Bonaparte area of the fishery).</p>		

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Fishery	Potential for interaction		Description		
	Operational Area	EMBA	✓ = overlap with fishery	shading = possibility for interaction with the Operational Area.	* = no spatial overlap
North-West Slope Trawl Fishery	x	✓	The North-West Slope Trawl Fishery management area overlaps the EMBA. The fishery has been active since the 1990's targeting scampi (<i>Metanephrops</i> spp. and <i>Nephropsis</i> spp.) using demersal trawl methods. Fishery Status Reports indicate fishing effort has decreased over the previous decade, with 3-4 vessels operating between 2020-2022. (ABARES, 2023). Accordingly, Eni considers it a possibility that interactions with the fishery may occur in the EMBA.		
Southern Bluefin Tuna Fishery	x	✓	The Southern Bluefin Tuna Fishery spans the Australian EEZ, however since 1992, the majority of Australian catch has concentrated in south-eastern Australia. (ABARES, 2023). Accordingly, Eni does not consider any potential for interaction with this fishery and Blacktip activities.		
Skipjack Tuna Fishery	x	✓	The Skipjack Tuna Fishery spans the Australian EEZ, consisting of the western and eastern fishery. Although the fishery appears to overlap with the EMBA, no fishing has occurred since 2009 (ABARES, 2023). Accordingly, Eni does not consider any potential for interaction with this fishery and Blacktip activities.		
Western Tuna and Billfish Fishery	x	✓	The Western Tuna and Billfish Fishery operates in the Australian EEZ and high seas of the Indian Ocean. In recent years, fishing effort has concentrated off south-west Western Australia, with occasional activity off South Australia (ABARES, 2023). Accordingly, Eni does not consider any potential for interaction with this fishery and Blacktip activities.		
West Australian State Managed Fisheries					
Broome Prawn Managed Fishery	x	✓	The Broome Prawn Fishery management area overlaps the EMBA. The fishery is only active within the EMBA and historically, this fishery operates with 5 NPF vessels. No fishing effort was recorded during the 2021-2022 season. (DPIRD, 2023). Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.		
Hermit Crab Fishery	x	✓	The Hermit Crab Fishery operates within the Marine Aquarium Managed Fishery and operates in all WA State waters, which overlaps the EMBA. The collection method for the fishery is hand-catch, on shorelines, and therefore the activity is limited to shallow coastal		

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Fishery	Potential for interaction		Description		
	Operational Area	EMBA	✓ = overlap with fishery	shading = possibility for interaction with the Operational Area.	× = no spatial overlap
			waters and shorelines. Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.		
Joint Authority Northern Shark Fishery	×	×	Joint Authority of Northern Shark Fishery operated in the eastern Kimberly and has not been active since 2008-2009 season (DPIRD, 2023). Therefore, Eni does not consider any interaction with this fishery and the Blacktip activities.		
Kimberley Crab Managed Fishery (KCMF)	×	✓	The Kimberley Crab Fishery management area overlaps the EMBA. The fishery is active in the EMBA, with an allocation of 600 traps to license holders and an equivalent allocation of 600 traps to Traditional Owner groups. During 2022, two people were employed as a skipper and crew on vessels fishing for mud crab in the KCMF, with effort occurring between August and October (DIPRD 2023). Accordingly, Eni considers a possibility that interactions with the fishery may occur only in the EMBA.		
Kimberley Gillnet and Barramundi Fishery	×	✓	The Kimberley Gillnet and Barramundi Fishery management area overlaps the EMBA. The fishery is active within the EMBA, operating within the coastal rivers and tidal creek systems. The 60NM CAES reporting blocks recording between 3 to 8 vessels across the 2017-2022 seasons (DPIRD, 2023). Accordingly, Eni considers a possibility that interactions with the fishery may occur only in the EMBA.		
Kimberley Prawn Managed Fishery	×	✓	The Kimberley Prawn Fishery management area overlaps the EMBA. The fishery is active within the EMBA, with 60NM CAES reporting blocks, recording less than 3 active vessels across the 2017-2022 seasons (DPIRD, 2023). Accordingly, Eni considers a possibility that interactions with the fishery may occur only in the EMBA.		
Mackerel Managed Fishery	✓	✓	The Mackerel Managed Fishery overlaps the Operational Area and EMBA. FishCube data for the Mackerel Managed Fishery is not provided at the 10NM scale, however effort reported in the 60NM CAES reporting block indicate less than 3 vessels across the 2019-2022 seasons (DPIRD, 2023), with fishing effort consistent in the years since 2012. Eni considers there may be potential for interaction with the fishery in the Operational Area and EMBA.		

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Fishery	Potential for interaction		Description	
	Operational Area	EMBA	✓ = overlap with fishery	shading = possibility for interaction with the Operational Area. × = no spatial overlap
Marine Aquarium Fish Managed Fishery	×	✓	The Marine Aquarium Fish Managed Fishery overlaps the EMBA. Collection method for this fishery is limited to SCUBA or surface supplied air (hookah) from small vessels in water depths <30m (DPIRD, 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	
Northern Demersal Scalefish Managed Fishery	×	✓	The Northern Demersal Scalefish Fishery management area overlaps the EMBA. The fishery is active within the EMBA, with 60NM CAES reporting block reporting between 3-7 active vessels across the 2017-2022 seasons (DPIRD, 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	
Open Access in the North Coast	×	✓	The Open Access in the North Coast Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60NM CAES reporting block reporting between 3-7 active vessels across the 2017-2022 seasons (DPIRD, 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	
Pearl Oyster Managed Fishery	×	✓	The Pearl Oyster Managed Fishery management area overlaps the EMBA. The fishery is active within the EMBA (DPIRD, 2023). The Pearl Oyster Managed Fishery fishing effort is mostly focused on coastal waters (10-15 m depth) with a maximum depth of 35m (DPIRD, 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	
Specimen Shell Managed Fishery	×	✓	The Specimen Shell Managed Fishery management area overlaps the EMBA. The fishery operates in shallow coastal waters via hand-collection (DPIRD, 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	
West Australian Sea Cucumber Fishery	×	✓	The West Australian Sea Cucumber Fishery management area overlaps the EMBA. Fishing primarily occurs from the Exmouth Gulf to the Northern Territory border (DPIRD, 2023). The fishery operates by diving and wading, occurring in shallow coastal waters (DPIRD, 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	
West Australian Charter based fisheries.				

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Fishery	Potential for interaction		Description	
	Operational Area	EMBA	✓ = overlap with fishery	shading = possibility for interaction with the Operational Area. × = no spatial overlap
Tour Operators	✓	✓	Fishing Tour Operators are permitted to operate across WA state waters and are required to report monthly logbook records of client fish catches. FishCube data reports indicate <3 licences were active in the 60 NM CAES reporting block overlapping the Operational Area (DPIRD, 2023). Within the wider EMBA, fishing effort was variable, with licence numbers ranging between <3-12 overall during the 2017-2022 seasons (DPIRD, 2023). Eni considers there may be potential for interaction with the fishery in the Operational Area and EMBA.	
Northern Territory Managed Fisheries				
Inshore Aquarium Fishery	×	✓	The Northern Territory Aquarium Fishery overlaps with the EMBA. The Aquarium Fishery is a small-scale, multi-species fishery and includes freshwater, estuarine and marine habitats to the outer boundary of the Australian EEZ. Freshwater and estuarine species are generally collected between the Adelaide and Daly rivers, while most marine species are collected within 100km of Nhulunbuy and Darwin (NT Government 2024a). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	
Bait Net Fishery	×	✓	The Bait Net Fishery overlaps with the EMBA. Commercial fishing for bait is allowed from the high-water mark to three nautical miles seaward of the low water mark but does not include Darwin Harbour and Shoal Bay. Analysis of five years of NT fishing effort data (2017-2021) shows one bait net fishery licence and two restricted bait licences operated in the vicinity of the EMBA during this period (DITT 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	
Barramundi Fishery	×	✓	The Barramundi Fishery overlaps with the EMBA. The fishing area for the Barramundi Fishery is restricted to waters seaward from the coast, river mouths and legislated closed lines from the high-water mark to 3nm seaward of the low water mark. (NT Government 2024b). Historical fishing effort demonstrates, fishing has concentrated in the eastern Joseph Bonaparte Gulf and Van Diemen Gulf region of coastal NT waters. Analysis of five years of NT fishing effort data (2017-2021) shows up to three licences operated in the vicinity of the EMBA during this period (DITT 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	

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Fishery	Potential for interaction		Description	
	Operational Area	EMBA	✓ = overlap with fishery	shading = possibility for interaction with the Operational Area. × = no spatial overlap
Coastal Line Fishery	×	✓	The Coastal Line Fishery overlaps with the EMBA. The managed fisheries area for the Coastal Line Fishery is between the high-water mark to 15 nm (from the low water mark). The western zone of the fishery extends from the WA border to Vashon Head on Cobourg Peninsula. Previous fishing effort has been concentrated in the coastal waters of the Tiwi Islands and Daly River inlet. Analysis of five years of NT fishing effort data (2017-2021) shows up to six licences operated in the vicinity of the EMBA during this period (DITT 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	
Coastal Net Fishery	×	✓	The Coastal Net Fishery overlaps with the EMBA. The fishing area for the Coastal Line Fishery is between the high-water mark and 3 nm out from the low water mark and is concentrated in the inner coastal waters surrounding Darwin. Analysis of five years of NT fishing effort data (2017-2021) shows up to two licences operated in the vicinity of the EMBA during this period (DITT 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	
Demersal Fishery	✓	✓	The Demersal Fishery overlaps with the Operational Area and EMBA. Demersal fishing is allowed from 15 NM from the low water mark to the outer boundary of the Australian EEZ, excluding the area of the Timor Reef fishery. Analysis of five years of NT fishing effort data (2017-2021) shows one licence operating in the Operational Area and two licences within the EMBA. (DITT, 2023). Eni considers there may be potential for interaction with the fishery in the Operational Area and EMBA.	
Development Fishery	×	✓	The Development Fishery overlaps with the EMBA. Development Fishery Licences are issued to existing fisheries intending to trial new fishing gear, fishing methods and / or catch new target species. Fishers who wish to conduct development trials are required to lodge written applications providing detailed information about their proposed activities. Performance criteria are assigned to each permit so that the feasibility of the trials may be assessed. Development licences may be issued to approved applicants for up to one licensing year and may be renewed a maximum of four times. Where licence holders meet all performance criteria and remain able to demonstrate that the fishery and/or gear is both	

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Fishery	Potential for interaction		Description		
	Operational Area	EMBA	✓ = overlap with fishery	shading = possibility for interaction with the Operational Area.	× = no spatial overlap
			ecologically and economically sustainable, the fishery and/or gear in question may progress to a managed fishery. Analysis of five years of NT fishing effort data (2017-2021) shows two licences operated in the vicinity of the EMBA during this period (DITT 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.		
Jigging Fishery	×	✓	The Jigging Fishery overlaps with the EMBA. Analysis of five years of NT fishing effort data (2017-2021) shows one licence operated in the vicinity of the EMBA during this period (DITT 2023), concentrated in the eastern Joseph Bonaparte Gulf and Daly River inlet. Therefore, Eni does not consider it a possibility that interactions with this fishery occur within the EMBA.		
Mollusc Fishery	×	×	The Mollusc Fishery overlaps with the EMBA. Commercial mollusc fishing is allowed in intertidal waters from the high-water mark out to the low water mark. NT fishing effort data from 2017-2021 does not show activity within the EMBA (DITT 2023). Therefore, Eni does not consider it a possibility that interactions with this fishery occur within the EMBA.		
Mud Crab Fishery	×	✓	The Mud Crab Fishery overlaps with the EMBA. Crabbing is generally confined to coastal mudflats and estuaries and commercial activity is concentrated in the Gulf of Carpentaria. Analysis of five years of NT fishing effort data (2017-2021) shows one licence operating in the vicinity of the EMBA during this period (DITT 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.		
Offshore Net and Line Fishery	✓	✓	The Offshore Net and Line Fishery overlaps with the Operational Area and EMBA. This fishery operates in all NT waters from the low water mark to the boundary of the Australian EEZ. Analysis of five years of NT fishing effort data (2017-2021) shows up to six licences operated in the vicinity of the EMBA and one licence within the vicinity of the Operational Area during this period (DITT 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur within the Operational Area and EMBA.		
Pearl Oyster Fishery	×	✓	The Offshore Net and Line Fishery overlaps with the EMBA. The Pearly Oyster Fishery operates from the high-water mark to the outer boundary of the Australian EEZ. Analysis of five years of NT fishing effort data (2017-2021) shows one licence operated in the vicinity of the EMBA during this period (DITT 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.		

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Fishery	Potential for interaction		Description	
	Operational Area	EMBA	✓ = overlap with fishery	shading = possibility for interaction with the Operational Area. × = no spatial overlap
Spanish Mackerel	✓	✓	The Spanish Mackerel overlaps with the Operational Area and EMBA. Commercial fishing for Spanish mackerel is allowed from the high-water mark to the outer boundary of the Australian EEZ. Fishing generally takes place around reefs, headlands and shoals. Analysis of five years of NT fishing effort data (2017-2021) shows one licence and up to eight licences operated in the vicinity of the Operational Area and EMBA, respectively (DITT 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur within the Operational Area and EMBA.	
Special Permits	×	✓	The Special Permits Area overlaps with the EMBA. This permit is for education activities, research or carrying out trials and experiments with fishing vessels or gear. It may also be issued for sport or recreation for a person who would otherwise be unable to fish due to disability. Analysis of five years of NT fishing effort data (2017-2021) shows up to two licences operated in the vicinity of the EMBA during this period (DITT 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	
Timor Reef Fishery	×	✓	The Timor Reef Fishery overlaps with the EMBA. Commercial fishing is allowed north-west of Darwin to the WA / NT border and to the outer boundary of the Australian EEZ. Analysis of five years of NT fishing effort data (2017-2021) shows up to five licences operated in the vicinity of the EMBA during this period (DITT 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	
Trepang Fishery	×	✓	The Trepang Fishery overlaps with the EMBA. Commercial fishing for sea cucumber is allowed from the high-water mark to three nautical miles seaward from the territorial sea baseline. However, most sea cucumbers are collected along the Arnhem Land coast, mainly around the Cobourg Peninsula and Groote Eylandt. Analysis of five years of NT fishing effort data (2017-2021) shows one licence operated in one reporting block in the vicinity of the EMBA during this period (DITT 2023). Therefore, Eni considers it a possibility that interactions with the fishery may occur only in the EMBA.	

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4.6.2 Traditional Indonesian Fisheries

The Australia-Indonesia MoU on the Operations of Indonesian Traditional Fishermen in Areas of the Australian Fishing Zone and Continental Shelf (1974) exists between the Australian and Indonesian governments to *'provide the framework for fisheries and marine cooperation between Australia and Indonesia, and facilitates information exchange on research, management and technological developments, complementary management of shared stocks, training and technical exchanges, aquaculture development, trade promotion and cooperation to deter illegal fishing'* (Department of Agriculture, Fisheries and Forestry, 2024). The MoU enables traditional fishing to occur within sections of the Australian Exclusive Economic Zone. A traditional Indonesian fishing area (known as the MoU Box) is established approximately 500 km northwest of the Operational Area and is partially within the northwest EMBA extent. Indonesian and Timorese fishermen are legally permitted to harvest marine products from within this area.

4.6.3 Tourism and Recreational Fishing

Charter fishing and tourism operate out of Darwin and the Kimberley (more than 150km from the Operational Area) and generally target areas of high scenic value or offshore coral reef areas. As these attributes are generally sparse in the offshore area of the JBG, the level of charter fishing and tourism is expected to be very low.

Expedition cruise boats operate between Broome and Wyndham and Darwin in the dry months (April to October). The boats remain in proximity to the coastline and are not likely to be present within the Operational Area for any significant periods.

Any recreational and charter fishing from vessels is largely undertaken using lines. Given the distance from boating facilities and slipways and lack of natural attractions in the Operational Area, very little recreational or charter fishing is expected to occur.

4.6.4 Commercial Shipping

Under the Commonwealth *Navigation Act 2012*, all vessels operating in Australian waters are required to report their location daily to the Rescue Coordination Centre (RCC) in Canberra. This Australian Ship Reporting System is an integral part of the Australian Maritime Search and Rescue system and is operated by AMSA through the RCC.

AMSA was consulted about the Blacktip drilling activities and its coordinate searches in 2023 have indicated there is no major commercial shipping in the vicinity of the Operational Area. The nearest shipping fairway designated by AMSA located more than 80km away (Figure 4.17). Traffic is limited to infrequent visits by Northern Prawn Fishery (NPF) and other fisheries, whose boats are typically 13 to 25m long.



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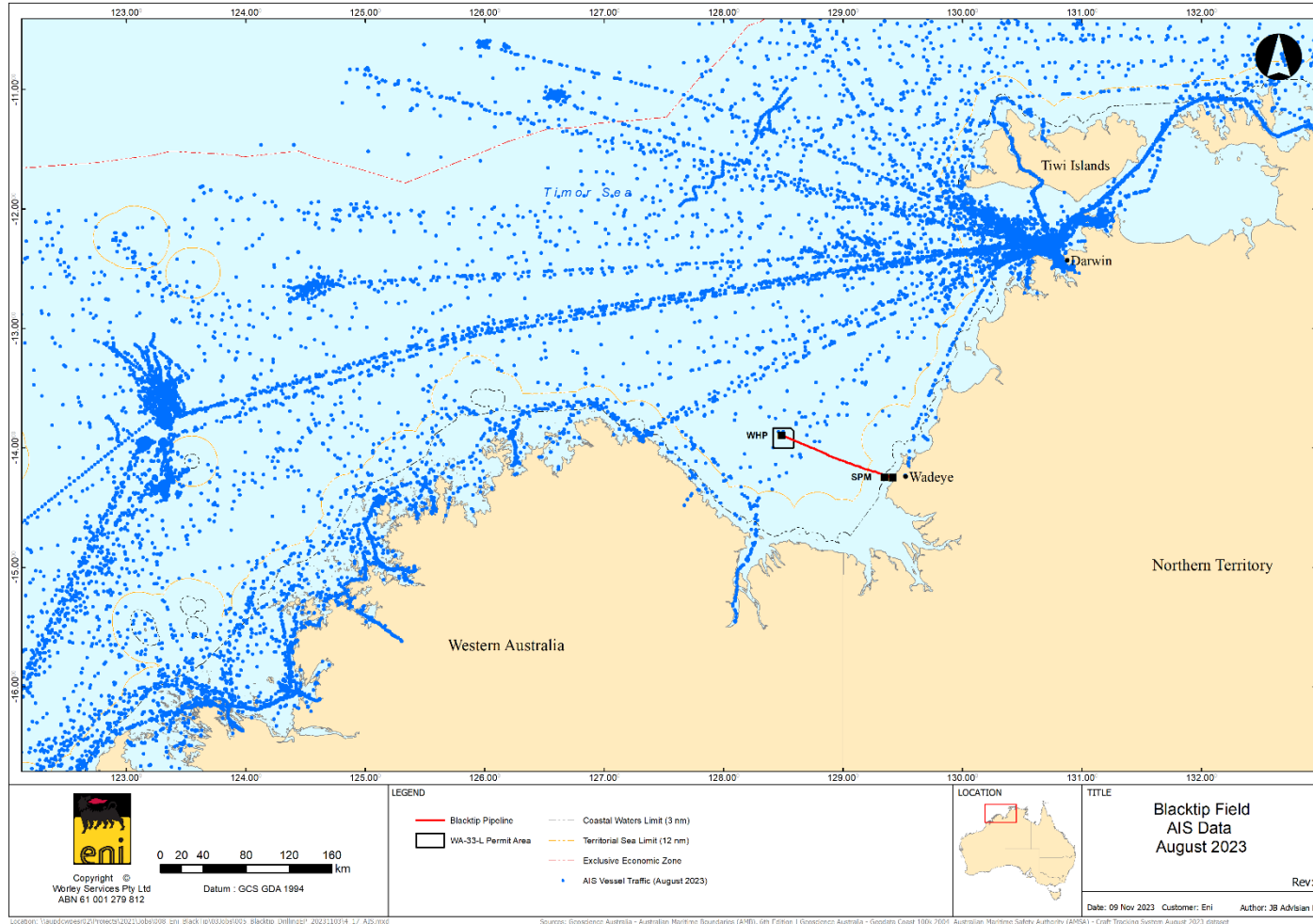



Figure 4.17: Commercial shipping within the region

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4.6.5 Defence Activities

There are two defence training areas in the North Marine Region (Figure 4.18). The Operational Area overlaps the training area R202G and the North Australia Exercise Area (NAXA). A Royal Australian Air Force base, located at Darwin, lies approximately 300km to the northeast of the Operational Area.

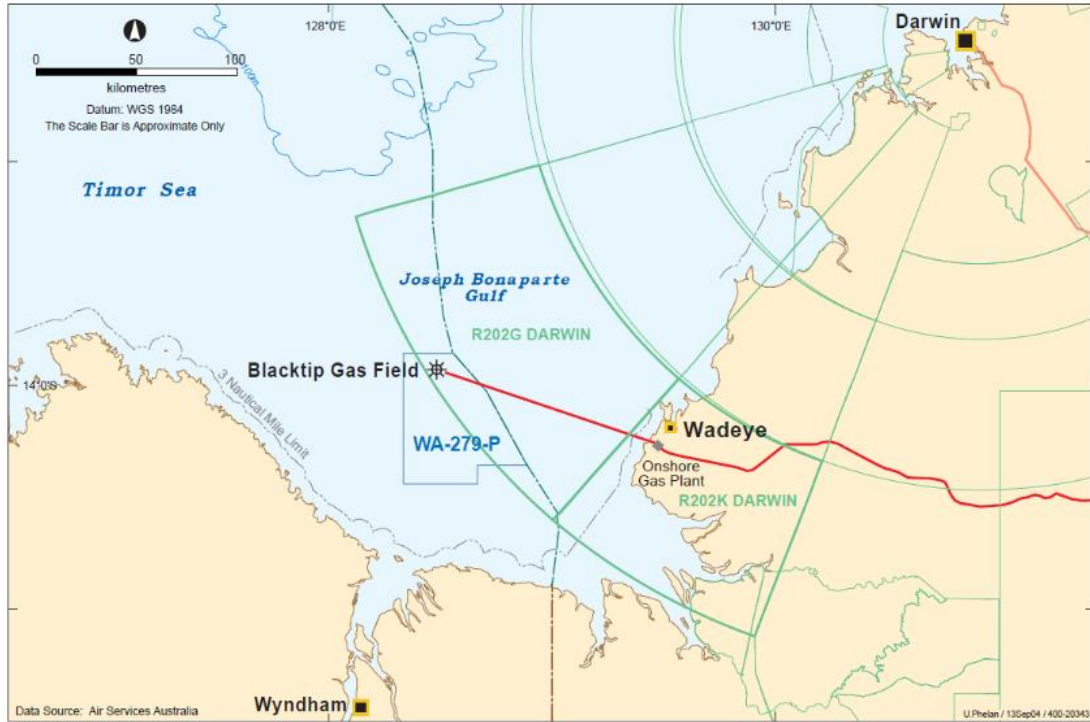


Figure 4.18: Offshore military aerial exercise zones in the Joseph Bonaparte Gulf

4.6.6 Oil and Gas Infrastructure

There is no other active oil and gas infrastructure in the vicinity of the Operational Area. Figure 4.19 shows oil and gas pipeline infrastructure within the EMBA.



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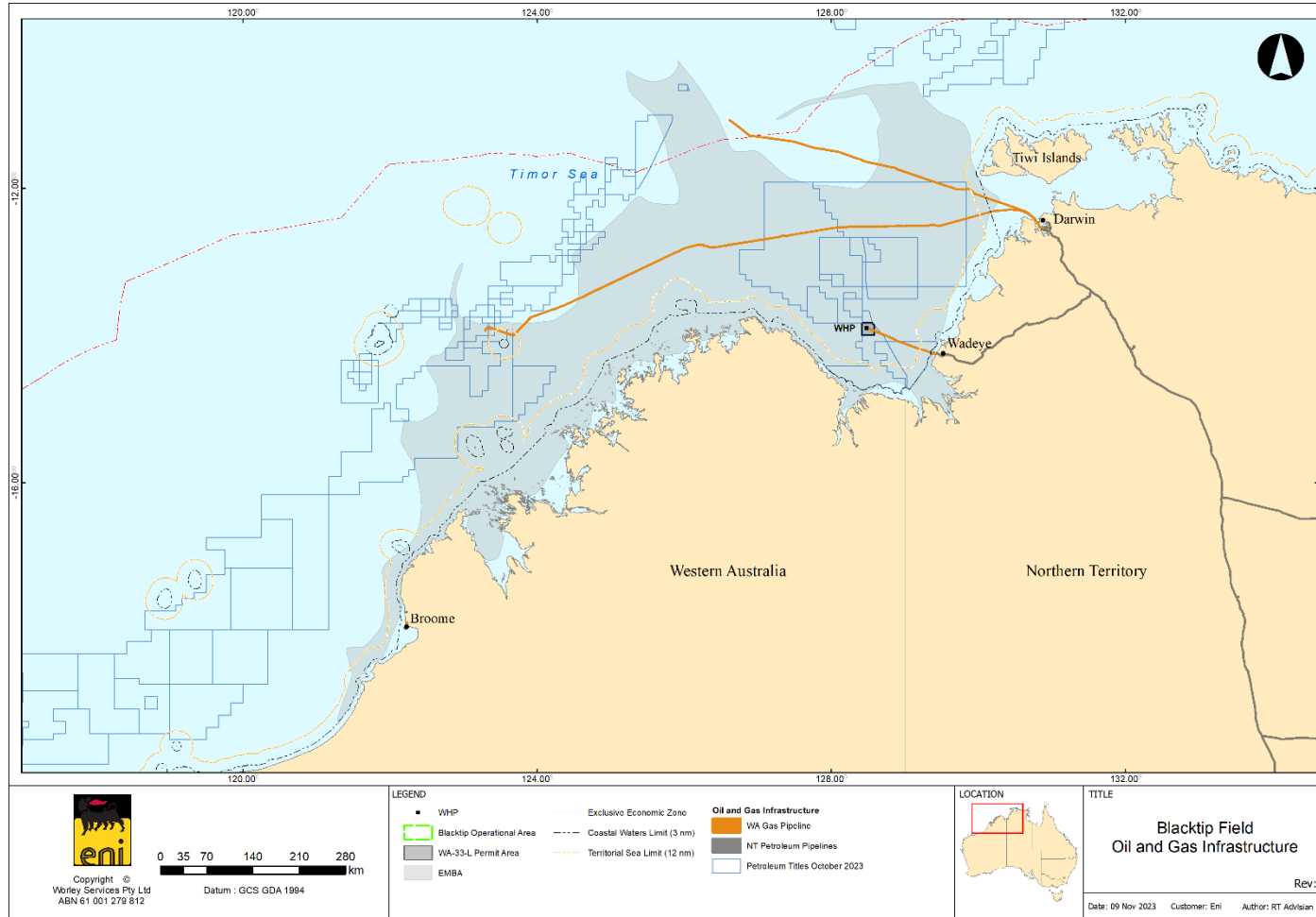



Figure 4.19: Oil and gas infrastructure within the environment that may be affected

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4.6.7 Subsea Cables

Submarine cables are underwater infrastructure which transfer communications or electricity, linking one area of Australia to another, or Australia to other countries. No subsea cables intersect with the Operational Area. Those within the EMBA are listed below:

- North-West Cable System – connects Darwin to Port Headland. Located >250 km from the Operational Area
- Asia Connect Cable-1 – connects Australia to South-East Asia and North America. Located >200 km from the Operational Area.
- Hawaiki Nui – connects Australia to South-East Asia and North America. Located >200 km from the Operational Area.

4.6.8 Shipwrecks

Detailed geotechnical and geophysical surveys conducted for the Blacktip facilities, which included the use of a magnetometer, have not detected any shipwrecks at the Operational Area (Woodside, 2004).

There are shipwreck sites along the northern Kimberly coastline. The sites within the EMBA that are less than 300km from the Operational Area are listed in Table 4.11.


Table 4.11: Shipwrecks within the environment that may be affected that are less than 300km from the Operational Area

Shipwreck name	Distance from Operational Area (km)
SEDCO Helen	120km north
RAAF B-24 Liberator A-72 80 (aircraft)	225km west

4.6.9 First Nations

The Blacktip YGP (approximately 108km to east of the Operational Area) is located in the Thamarrurr Region, owned by the Traditional Owner groups of the Daly River Port Keats Aboriginal Land Trust. The land is inalienable freehold land, held under the *Aboriginal Land Rights (Northern Territory) Act 1976*.

One hundred kilometres to the south of the Operational Area, the land comes under the Balangarra Aboriginal Corporation, who administers the land on behalf of the Balangarra People.

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Within the Thamarrurr Region, there are seven language groups and more than 20 clan groups, as identified in Figure 4.20 (Streten et al., 2020; Ivory, 2009). The Thamarrurr Development Corporation Ltd (TDC) is a not-for-profit corporate entity owned by members of the four main ceremonial groups – the Wangka, Lirrga, Wulthirri and Tjanpa peoples – and established by the 20 clan groups of the Thamarrurr Region. The TDC represents the interests of these clan groups, which are patrilineal land-owning groups with clear estates and boundaries. Under Thamarrurr, all land-owning groups have traditional rights and responsibilities over their land, and are able to work together to resolve issues involving that land (TDC, 2023). Thamarrurr Rangers are an important part of the TDC, employing 20+ local Indigenous staff and four non-Indigenous support staff (TDC, 2023). The Thamarrurr Rangers actively engage with Traditional Owners and community members in natural and cultural resource management as they work across 18,000sq km of Country and 240km of coastline (TDC, 2023).

For the EMBA, three land councils represent First Nations communities: the Kimberly Land Council in WA, and the Northern Land Council and Tiwi Land Council in NT. There are also Prescribed Bodies Corporate that represent First Nations peoples both in the NT and WA.

Aboriginal corporations on the shorelines of the EMBA and moderate exposure area have been identified in Figure 4.21. In coastal areas of the NT that overlap the EMBA, Native Title determinations are limited to an area around Darwin relating to Larrakia; however, no Native Title is in effect.


4.6.9.1 Culture, Songlines and Connection to Country

First Nations peoples have passed down their culture through generations for the past 65,000 years. This is demonstrated by ongoing cultural connections to their country, as well as by archaeological evidence of human occupation dated to be over 65,000 years old.

Historically, First Nations people lived in small family groups and were semi-nomadic, with each family group living in a defined territory, systematically moving across a defined area following seasonal changes. First Nations people built semi-permanent dwellings; as a nomadic society emphasis was on relationships to family, group and country.

Membership within each family or language group was based on birthright, shared language, and cultural obligations and responsibilities. Groups had their own distinct history and culture and at certain times, family groups would come together for social, ceremonial and trade purposes (WWIA, 2023).

According to First Nations beliefs, the physical environment of each local area was created and shaped by the actions of spiritual ancestors who travelled across the landscape (WWIA, 2023). Songlines are tied to the Australian landscape and provide important knowledge, cultural values and wisdom. Songlines trace the journeys of ancestral spirits as they created the land, animals and lore, and are integral to spirituality and connectedness to country.


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Unlike elsewhere in Australia, Traditional Owner groups in northern Australia had several centuries of contact with foreign visitors before the arrival of Europeans (National Oceans Office 2004). Many coastal and island regions in WA and the NT were the scene of complex patterns of interaction, trade and exchange with outsiders including Macassan trepangers from Sulawesi from the late 1600s until early 1900s, European mariners from the mid- 1600s, and Japanese pearl divers after European arrival (McCarthy et al 2022).

There is strong indication Songlines exist along the coast of northern WA and the NT. There are often sacred sites entwined with the Songlines. Natural features within the EMBA (e.g., reefs and coastline features) may form core components of Dreaming stories for different First Nations people.

Totems connect First Nations people on a spiritual level, providing a deeper connectivity and understanding to their family groups, their Country, Dreaming and creation events. Marine animals and plants found in Sea Country can hold special cultural significance (including totemic value) to different First Nations people and may be important for subsistence and medicinal purposes. As described in Section 4.4.1, BIAs for marine fauna are located within EMBA, including those for marine turtles and whales.

Consultation with Traditional Owner groups did not identify any Songlines over the EMBA, ZPI or Operational Area.

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Source: Image provided by the Thamarrurr Development Corporation in Streten et al., 2020

Figure 4.20: Thamarrurr Region and 20 clan regions

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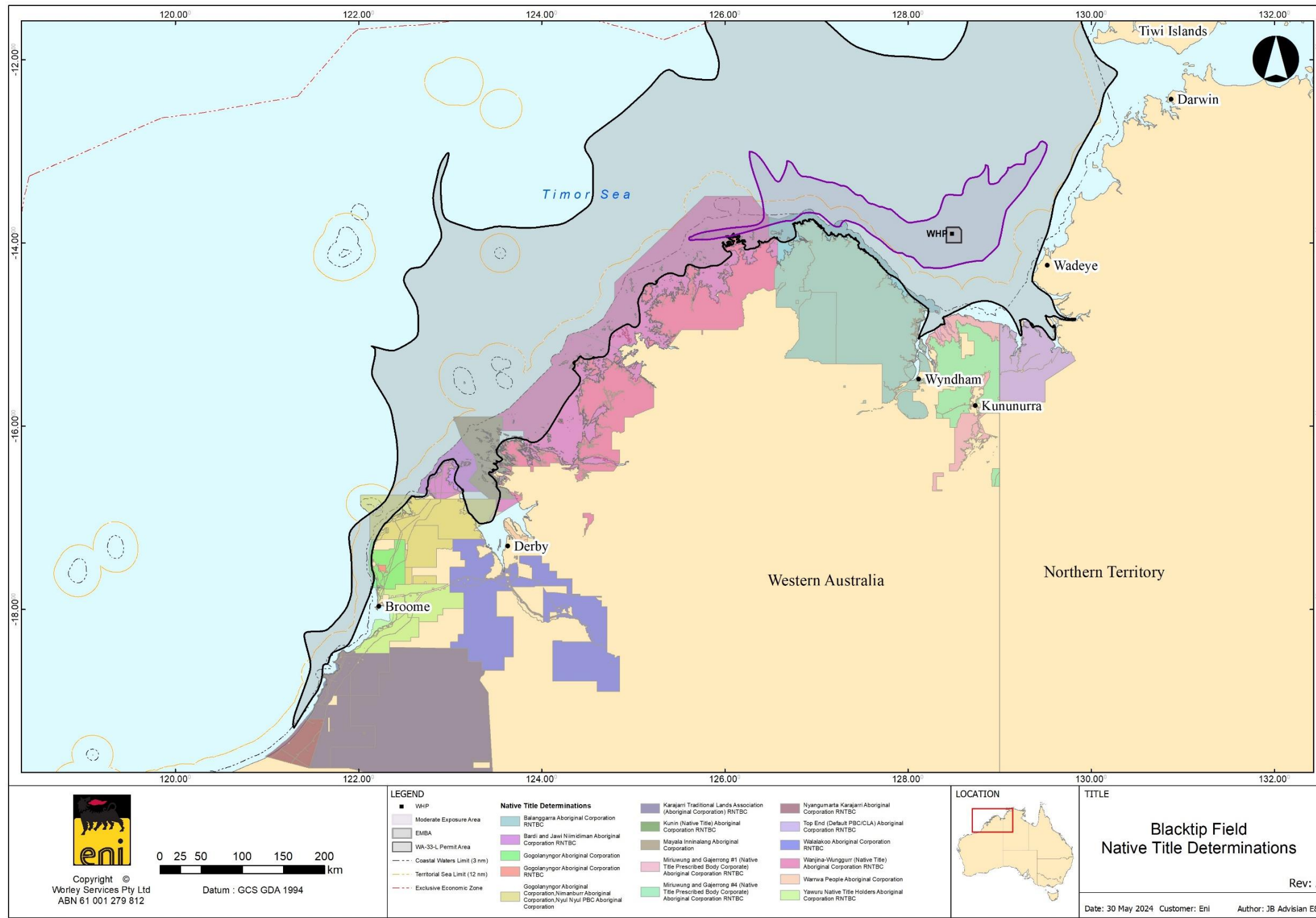



Figure 4.21: Aboriginal Corporations in the vicinity of the environment that may be affected and moderate exposure area

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4.6.9.2 Sea country and submerged historic landscapes

Over the 65,000 years of First Nations occupation of Australia, sea levels have fluctuated, rising from a peak low of -120 m at around 21,000 years ago relative to present levels, which resulted in the inundation of vast areas the continental shelf (Ward et al 2022). First Nations peoples have been sustainably using and managing their sea country for tens of thousands of years, in some cases since before rising sea levels created these marine environments (DNP 2018b).


Sea country or saltwater country refers to the areas of the sea that First Nations peoples are particularly affiliated with. It is an estate of sea as well as land, containing sacred sites and inhabited by ancestral beings, existing in both the physical and spiritual world. Sea country is valued for First Nations cultural identity, health and wellbeing (DNP 2018a, 2018b).

There is a considerable body of literature describing the complexity of the cultural, spiritual, ceremonial, territorial and economic connection between First Nations peoples and the sea.

Although limited baseline surveys of submerged archaeology have been undertaken in Australia to date, submerged archaeological landscapes have recently been identified in WA through combined evidence of terrestrial ecology, coastal and marine geomorphology and sea-level studies (Benjamin et al 2020; McCarthy et al 2022). As some of the oldest dated terrestrial sites have been found in the NT, there is a potential for the existence of submerged landscapes with associated First Nations heritage values due to strong cultural connections between Traditional Owners and the sea (McCarthy et al 2022). Such relationships and the connections with sea country transcends the landscape/seascape divide and the sea is not only a physical and temporal space, but also a mental map of ancestral journeys and rituals to nurture and pass on to future generations (Ward et al 2022).

As described in Section 4.5.1, many AMPs are of important cultural significance with fishing, hunting and the maintenance of First Nations heritage through ritual and stories are considered to be important uses of nearshore and adjacent areas (DNP 2018a). Australian and State Marine Park Management Plans offer a source of publicly available information regarding Sea Country in proximity to the EMBA and ZPI. Management Plans developed to protect these reserves have been used to inform some of the marine values and sensitivities related to Sea Country in this EP (refer to Appendix B).

Documenting traditional knowledge initiates a conversation with First Nations people about their Sea Country and allows industry to gain further understanding about where the geographic areas of importance are and why they are important for First Nations people.

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4.6.9.3 Sacred sites and other recognised heritage places

Culturally important sites and places include a range of ceremonial and mythological sites, camps, quarries, artefacts and manmade structures. Some sites are located inland and therefore have limited potential for interaction with activities (unplanned) associated with this EP. Whereas other sites may be located directly on the coast or on offshore islands that have values associated with plant resources, water sources, hunting places/camps and spiritual and cultural history. Refer to figure 4.23 where some of these places have been identified in the JBG in consultation with different clan groups of the Thamarrurr Region.

4.6.9.4 Seasonal calendars

First Nations people peoples have developed an understanding of the Australian environment over many thousands of years (BOM 2023; CSIRO 2022). Knowledge of the seasons is highly localised and unique to each Aboriginal group. As such, the number of seasons recognised in an annual cycle, the length of each season, and how they are locally defined and understood, differs a lot depending on where the seasonal knowledge of Country has developed (CSIRO, 2022).


Within specific seasons certain activities occur; these include customary activities such as ceremonies and burn offs. Resource availability is also influenced by season such as the flowering of certain plants identifying when eggs are available for collection or specific bird calls which indicate that yams are ready to eat (BOM, 2023).

Some examples of specific traditional activities that may occur in the EMBA that are influenced by season include:

- The Yawuru (Broome) calendar shows that during Barrgana (cold season; June to August) fish traps are used to catch salmon and mullet and dugong are also hunted (BOM 2023). Whereas in Laja (hot season; September to November) turtle eggs are collected, and stingrays hunted to provide food (BOM 2023)
- The Mayala (Buccaneer archipelago/West Kimberley) seasonal calendar shows fishing occurs in Barrgana (May to July) and turtle nesting in Jalalay (July to October) (Mayala Inninalang Aboriginal Corporation RNTBC 2019)
- The Bardi seasonal calendar shows that turtle eggs are collected during the wet season (Mankal; January to February) and dugong hunting occurs during Barrgan (May to August). Jalalay (September to October) marks the end of dugong hunts and the best time to catch stingray.

4.6.9.5 Traditional use of resources

Traditional fishing occurs along the majority of the Kimberley and NT coastline. The practice of traditional fishing includes taking turtles, dugong, fish and other marine life (DCCEEW 2023g), with traditional fishing methods consisting of the use of lines, hand collection, nets and spears (National Oceans Office 2004). Several IPAs identified in Section 4.6.9.10 are found within the EMBA where it can be expected that traditional fishing activities will occur. Within the Northern Land Council region, approximately 55% of the NT's coastline is owned by Traditional Owner groups. These areas support a range of economies and livelihoods and contain many iconic fishing areas (NLC 2021).

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A National Recreational and Indigenous Fishing Survey undertaken in 2000, reported that the greatest fishing effort focused on saltwater environments, including estuarine, coastal, inshore (less than 5 km from the coast) and offshore (greater than 5 km from the coast) with line fishing and hand gathering being the two most common fishing methods (National Oceans Office 2004). Data collected during the survey in 2000, showed that offshore fishing activities represented only 2% of total indigenous fishing effort with inshore (49%), coastal (23%), rivers (16%) and lakes/dams (10%) being more common (National Oceans Office 2004).

The traditional harvesting of marine resources (e.g. turtles, whale sharks and dugong) adjacent to the NWMR is a pressure of potential concern for the carbonate bank and terrace system of the Sahul Shelf, the pinnacles of the Bonaparte Basin, and the Commonwealth waters surrounding Ashmore Reef and Cartier Island (DSEWPac, 2012a).


As stated in Section 4.5.1, several Traditional Owner groups have responsibility for managing sea country in areas covered by the EMBA where they have deep spiritual connections to offshore landscapes and harvest marine resources for food and cultural purposes. Fish are a staple food source, and fishing a form of cultural expression, connecting people to their country modelled on tradition and based in traditional law (DNP, 2018a).

Sea Country in the Thamarrurr Region

A partnership project between Eni, the TDC – Thamarrurr Rangers and the Australian Institute of Marine Science (AIMS) was undertaken in 2019 to map the ecological and cultural values of Sea Country in the Thamarrurr Region. The results of this mapping exercise were published by Streten *et al.* (2020) in the Australian Petroleum Production and Exploration Association (APPEA) Journal under the title 'Mapping traditional ecological knowledge of Sea Country to understand biodiversity and areas of cultural importance'. This section summarises the Sea Country mapping process and outcomes.

The conversation regarding a participatory mapping workshop was started through a proposal by AIMS that was provided to the Thamarrurr Rangers through Eni's community and environmental group. The Thamarrurr Rangers sought approval from the TDC, which represents the interests of the Traditional Owners of the Thamarrurr region.

After receiving consent and agreement from the Traditional Owners, researchers (Eni and AIMS) travelled to Wadeye to hold the participatory mapping workshops. The first workshop was attended by 30 Traditional Owners and Rangers representing different clan groups of the Thamarrurr Region. Attendance at the workshop by Traditional Owners representing many different clan groups in the area allowed the mapping exercise to cover a greater extent of the coastline, because Traditional Owners each have custodianship for their specific area and are restricted to speak only for that part of Country.

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The workshop commenced with researchers explaining how the knowledge shared by the Traditional Owners and Rangers would be used to generate a benthic habitat map that could be used by the people of the Thamarrurr Region to communicate with government and industry. The explanation was translated into local language by a member of the TDC.


From a Traditional Ecological Knowledge perspective, 'habitats' in the marine environment could be differentiated based on different ecological processes to those prioritised by scientists, and names will often differ between language, community or dialect. As such, habitats were identified in the local languages first, with English descriptions fitted to the Traditional Ecological Knowledge classifications. The workshop commenced with development of a classification system for marine benthic habitats in three local languages – Murrinhpatha, Mari Amu and Marri Tjevin – and English (Table 4.12). The local language words for each habitat were confirmed by discussing photographs of potential habitats in the region and using local language dictionaries with workshop participants.

Table 4.12: Murrinhpatha, Mari Amu, Marri Tjevin and English words for marine habitat types

English	Murrinhpatha	Mari Amu	Marri Tjevin
Oysters	Ku wurldirr	Awu wundirr	Awu wundirr
Sea rocks, coral, rocky reef	Nanthi kalpa	Karrila	Karrila
Seagrass	Nanthi kurrukurruk	Thamurr munmurr	Thamurr munmurr
Sand	Da darrimurn	Munirrhi	Munirrhi
Macroalgae	Nanthi wemat	Thamurr murmur	Thamurr murmur
Mangrove	Da dara	Tha Tjindi (nidin wuri)	Tha Tjindi (nidin wuri)
Mud	Da Paldart	Pilak	Pilua

After the language discussion, Traditional Owners and Rangers separated into five groups based on their homeland. The smaller groups drew the location of coral, oysters, seagrass, mangroves, mud, rock, rocky reef and sand on topographic maps of their homeland. The mapping exercise was repeated on the second day with Traditional Owners and Rangers, to add information and check the outcomes from the first day of workshops. The information collected at the workshops was digitised in geographic information system software and a draft habitat map was generated. Researchers returned to Wadeye to discuss the draft habitat map of the Thamarrurr Region.

Rangers and Traditional Owners were invited to check the detail on the map to confirm its accuracy and to identify additional information for inclusion. This refinement step ensured the researchers' interpretation of the knowledge shared matches that of the participants. The classification system in local languages was also reviewed during the second visit to Wadeye. The draft map was refined and the final map identified eight different benthic habitats in three local languages plus English, covering a total area of over 1000km² along the Thamarrurr coastline (Figure 4.22). Other cultural information was also mapped, including totem and dreaming sites and other features of cultural and historical importance (Figure 4.23).

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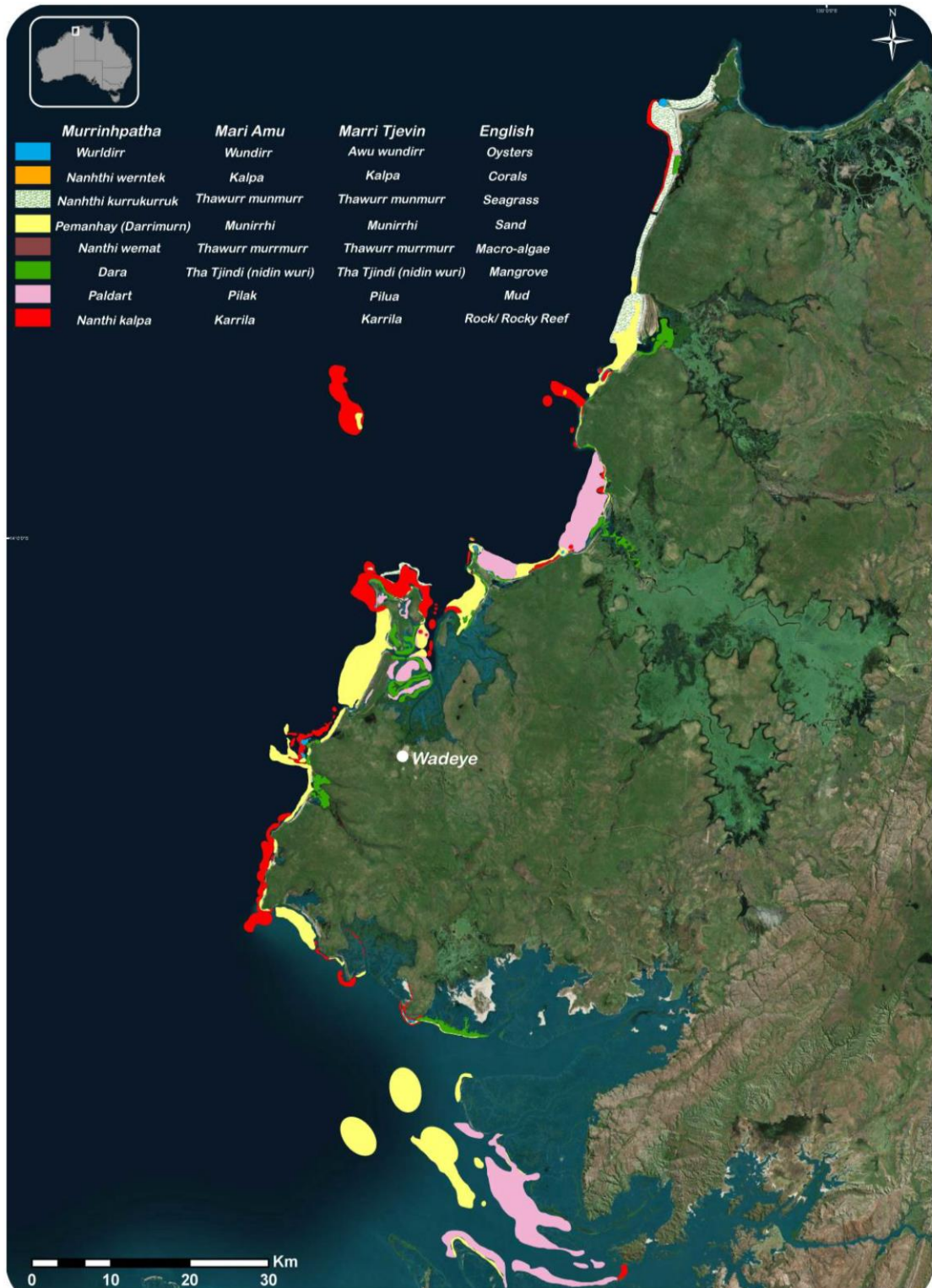



Figure 4.22: Sea Country habitat map for the Thamarrurr Region based on participatory mapping workshop

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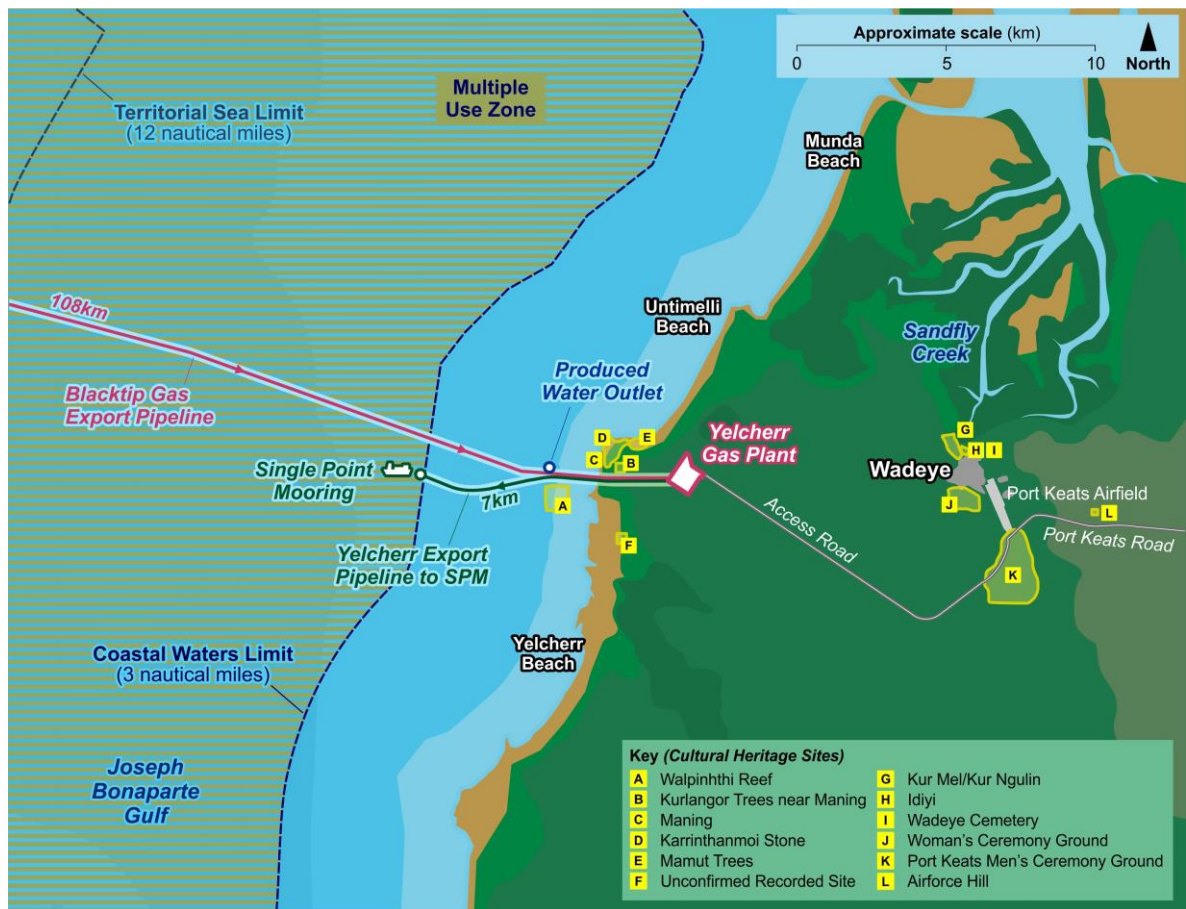


Figure 4.23: Key cultural sites in the vicinity of Yelcherr Gas Plant


Sea Country in the Environment That May Be Affected

It is understood a fundamental aspect of First Nations peoples' past and ongoing relationship with the sea is that particular groups have a complexity of rights and interests over particular areas of the sea and adjoining coastal land (National Oceans Office, 2004). Such relationships and the connections with Sea Country transcend the landscape/seascape divide; the sea is not only a physical and temporal space, but also a mental map of ancestral journeys and rituals to nurture and pass on to future generations (Ward *et al.*, 2022).

Many of the land along the north Kimberley coastlines has Sea Country components and encompasses small islands near the coast. For example, the Balangarra lands include the Sir Graham Moore Islands, Adolphus Island and Reveley Island.

Given the NT has the oldest dated terrestrial sites, there is a potential for the existence of submerged landscapes with associated Aboriginal heritage values due to strong cultural connections between Traditional Owners and the sea (McCarthy *et al.*, 2022).

As described in Section 4.6.9.10, many AMPs are of important cultural significance, with fishing, hunting and the maintenance of First Nations heritage through ritual and stories considered to be important uses of nearshore and adjacent areas (DNP, 2018a, 2018b). Blacktip Project and the Thamarrurr Rangers

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The Thamarrurr Rangers were established in 2001 by the Traditional Owners of the Thamarrurr Region to address land and sea management issues. The Rangers have grown from community development and employment programs to a well-resourced program through the Working on Country program (TDC, 2023).

The Thamarrurr Rangers actively engage with Traditional Owners and community members in natural and cultural resource management. They patrol more than 18,000km² of land and around 240km of coastline (from the Daly River to the Fitzmaurice River), and do a range of work, including coastguard, pest control, monitoring wild animals, protecting cultural assets, education and managing the Marri-Jabin Indigenous Protected Area (IPA) (TDC, 2023), as well as activities for Eni.

Traditional Owners of the Thamarrurr Region hold a close affinity with Sea Country and, together with Thamarrurr Rangers, have recognised the importance of maintaining an active presence on the water. As discussed in previous sections, the 2019 Sea Country mapping workshops provided the opportunity for the Rangers and researchers (Eni and AIMS) to exchange scientific monitoring knowledge that could enhance the local community's management capabilities of Sea Country.

Eni, AIMS and Thamarrurr Rangers have worked together on field-based projects at Blacktip, notably the following:

1. 2020 Ecological Data Collection at Emu Reef in Wadeye, NT


Rocky reefs are important habitats and nursery areas for a diversity of marine species, such as golden snapper and black jewfish. Based on the participatory mapping workshop (discussed in previous sections), rocky reefs are a key ecological feature in the Thamarrurr Region. The rocky reefs in the region include reef fish protection area, Emu Reef, and the sacred site Walpinhthi Reef (refer Figure 4.23). There is limited scientific data available on the nature of these ecologically important areas.

This project was conducted by AIMS, in collaboration with the Thamarrurr Rangers, during two fieldtrips in the fourth quarter of 2020, and provided training to Rangers on how to use baited remote underwater videos and other marine surveying techniques to characterise reef habitats. The target locations included an around Eni produced formation water release point and Emu Reef. The project not only increased the current knowledge of reefs in the area but also provides field data to refine the details for the areas mapped during the initial participatory workshop. In addition, training of the Rangers provided them with the skills to undertake routine monitoring of the reefs in their Sea Country.

2. 2023 Water Quality Sampling at the Blacktip Produced Formation Water Release Point

This project trained the Thamarrurr Rangers to undertake monthly produced water outfall sampling following Eni-verified sampling protocols.

AIMS trained the Thamarrurr Rangers in water sampling and conducting a dummy survey using a fluorometer on the subsequent day. A Go Pro was used to record the training and fieldwork and may be used as reference and future training of new rangers.

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Eni and Thamarrurr Rangers arrangements continue in relation to monitoring and data collection. It is expected to continue to grow with ongoing training in marine operations, with Rangers increasing their ability of monitoring for research and compliance purposes. The Thamarrurr Rangers also use the water quality sampling skills to assist Eni in the event of an oil spill (refer to the Blacktip Operational and Scientific Monitoring Plan (000036_DV_PR.HSE.0860.000)).

3. 2023 Fluorometer Survey Training in Response to Oil Spill

Following the water quality sampling training (detailed above), AIMS trained the Thamarrurr Rangers in fluorometer use so they can be first responders sampling water in the event of an oil spill. Further details on the use of the Thamarrurr Rangers' skills in operational and scientific monitoring following an oil spill are included in the Blacktip Operational and Scientific Monitoring Plan (000036_DV_PR.HSE.0860.000).

4. Annual Sediment and Shellfish Surveys

Sediment and shellfish sampling around the Blacktip produced water outfall and at references sites offshore of Wadeye region.

Other field-based projects in collaboration with the Thamarrurr Rangers may be completed in the future. These include:


5. Understanding Mangrove Habitat Change in the Thamarrurr Region

Mangroves play an important role in coastal ecosystem health because they limit coastal erosion and are important nursery grounds for demersal fish and sharks. A change in mangrove habitats along the west coast of the Gulf of Carpentaria, NT has been identified.

The Traditional Owners of the Thamarrurr Region have also identified this change along the east coast of the Bonaparte Gulf, NT. While studies are underway to understand the change in the Gulf of Carpentaria, the cause, rate and extent of the changes of mangrove habitat along the coast near Wadeye have not been examined. This project, in collaboration with Rangers and Traditional Owners, would use participatory mapping techniques to document the change identified by Traditional Owners, in combination with analysis of remote sensing satellite imagery, to elucidate the observed patterns and to assess other environmental variables that may have attributed to this change. Understanding the location of mangrove decline within the Thamarrurr Region may facilitate the identification of factors driving the decline and to develop potential strategies for mangrove rehabilitation projects.

6. Interpreting Megafauna Data and Designing Monitoring Program for Rangers

During the mapping exercise, Rangers and Traditional Owner identified foraging locations for turtles and dugongs as well as movement patterns of rays along the coast. This project may collate Traditional Owners' knowledge as well as data to provide information about the status of species in the area. The outcomes from the project would be a monitoring program designed based on priority species and areas.

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4.6.9.6 Blacktip Project and the Development Phase First Nations Engagement


In 2004, during development of the Blacktip Project, surveys and consultation were undertaken with the Traditional Owners to determine cultural heritage values that need to be protected and conditions for the long-term use of the land by Eni. The methods and results of these surveys are included in the Social Impact Assessment of the Blacktip Project, an appendix to the Blacktip Project Environmental Impact Assessment (Woodside, 2004). Concerns raised by Traditional Owners that have some relevance to the Blacktip drilling activities are included in Table 4.13.

An Authority Certificate (ref: D86/199;94/201) for the Blacktip Project was issued by the Aboriginal Areas Protection Authority on 26 June 2006 and remains in force. The certificate includes conditions for operating the Blacktip Project, both onshore and offshore. A Principal Agreement has also been in place for the Blacktip Project since 2006 between Eni Australia B.V and the Northern Land Council and the Daly River Port Keats Aboriginal Land Trust.

Table 4.13: Feedback raised by Traditional Owners during Blacktip development

Feedback	Where addressed in this EP
Pollution caused by ballast water being emptied into the ocean and polluting local waters	Risks from ballast water exchanges have been addressed in Section 8.3.
The Company not taking responsibility for gas, condensate and pollution leaking into the sea	Eni has in place the Blacktip OPEP (000036_DV_PR.HSE.0388.000) and Scientific Monitoring Plan (000036_DV_PR.HSE.0860.000) to manage any gas, condensate and pollution leaking into the sea. Eni is responsible for the full extent of any costs, expenses, liability and damages that occur, including any civil liability damages (e.g., in the event of a spill) that might be pursued through civil action in a court of law, or under the 'polluter pays' statutory duty under the OPGGS Act. Any entity who has, or may be, financially disadvantaged as a direct result of planned operations or unplanned incidents associated with offshore petroleum activities is entitled to seek compensation from the responsible party directly, or through civil proceedings via the courts.
The effect of Category 4 and 5 cyclones on the gas processing plant and the WHP in the ocean	As referenced in Section 10.13.8, the Eni Standard Adverse Weather (ENI HSE ST 031) and Eni Cyclone Preparation Plan (000036_DV_EX.OPS.0758.000) include detailed procedures for preparing for and responding to cyclone events. In the event a cyclone (or severe weather) is forecast, and it has the potential to affect the Blacktip drilling activities, the cyclone management plan will be actioned. If required, vessels can transit from the proposed track of the cyclone (or severe weather).

A range of other concerns were raised relating to the onshore components of the Blacktip Project, and are noted and addressed in the Blacktip Project Environmental Impact Assessment (Woodside, 2004).


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4.6.9.7 Indigenous Protected Areas

An IPA is an area of Indigenous-owned land or sea where Traditional Owners have entered into an agreement with the Australian Government to promote biodiversity and cultural resource conservation. IPAs are managed by First Nations groups in accordance with Traditional Owners' objectives. The boundaries of IPAs may be aligned with Native Title boundaries, or wholly contained within. In 2022, the Australian Government announced a program (the Sea Country IPA Program) to expand the IPA network to include coastal and marine areas. The IPA program is jointly administered by DCCEEW and NIAA.

IPA are shown in Figure 4.24. Two IPAs are in the vicinity of the EMBA in the JBG: the Marri-Jabin IPA and the Balangarra IPA. The Bardi Jawi IPA is within the eastern extent of the EMBA. Whilst the EMBA does not contact the shore component of the Bardi Jawi IPA, it overlaps with the sea component of the IPA. Marri-Jabin IPA, Balangarra IPA and Bardi Jawi IPA are described further in the subsections below.

IPAs outside of the EMBA, but on adjacent shorelines are the Uunguu IPA, Dambimangari IPA.

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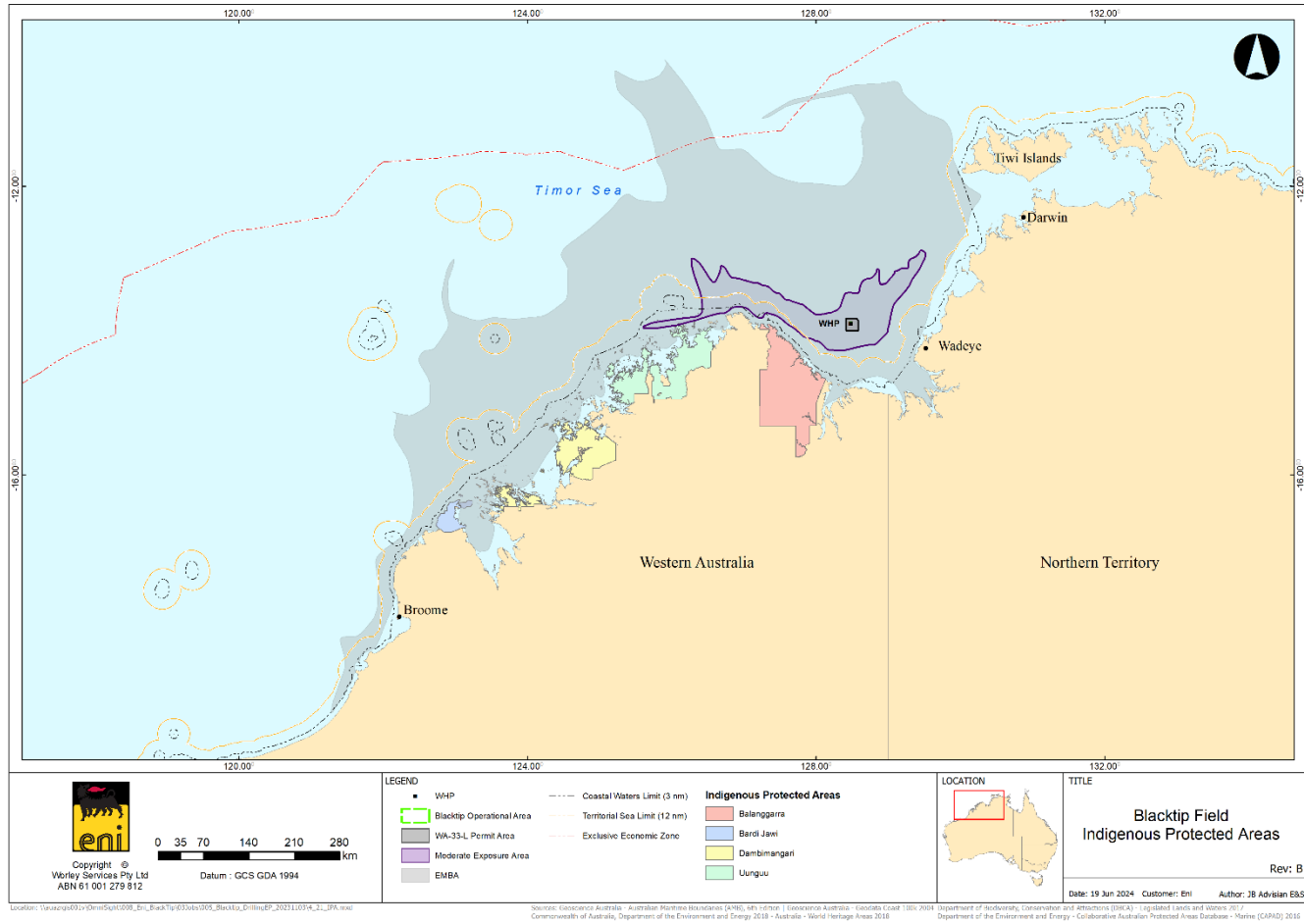



Figure 4.24: Indigenous Protected Areas in the vicinity of the EMBA

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Marri-Jabin IPA

Dedicated in 2010, the first stage of the Marri-Jabin IPA covers approximately 71,200 hectares around the Moyle and Little Moyle River area (NIAA, 2023a). The IPA is located 150km from the Operational Area and is not overlapped by the EMBA.



Source: NIAA, 2023a


Figure 4.25: Marri-Jabin Indigenous Protected Area

The Thamarrurr Rangers patrol the coastline and the IPA (NIAA, 2023a). The Rangers survey and manage invasive weeds, feral animals, marine invertebrates and diseases. Other activities include monitoring sea turtles, other threatened species and their habitats; managing fire; documenting and maintaining significant cultural sites; and passing on cultural knowledge to the next generation (NIAA, 2023a).

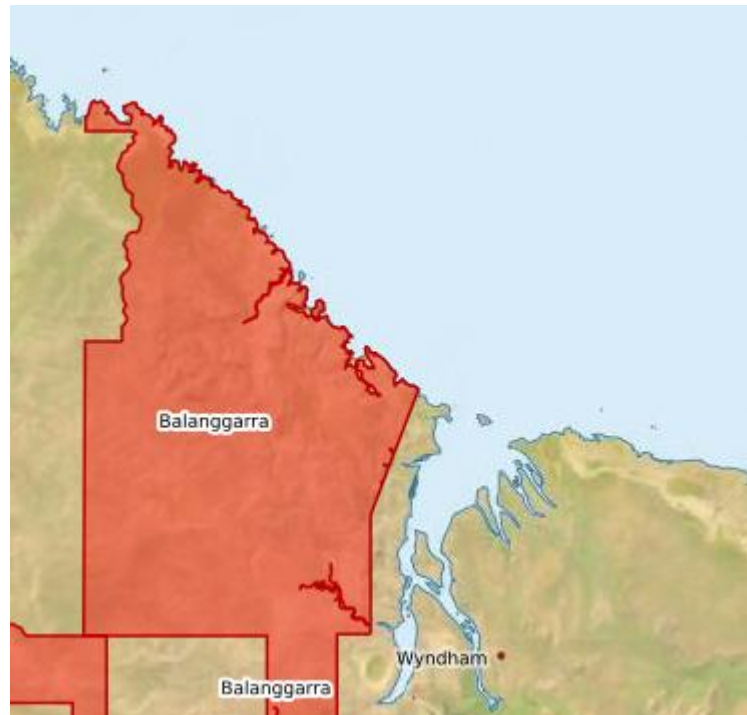
Balanggarra Indigenous Protected Area

Located in the Kimberley region near the WA border is the Balanggarra IPA. Dedicated in 2013, it covers more than one million hectares of land and Sea Country (NIAA, 2023b). The IPA is located 133km from the Operational Area.

The northern part of the Balanggarra country is 'blue water' country and includes Cape Londonderry, several rivers such as the lower Drysdale and King George, saltwater, reefs, and offshore islands, like Sir Graham Moore and the Governor Islands. The southern part is 'brown water' country and includes land drained by the Forrest River system, the muddy waters of the Cambridge Gulf and Adolphus Island (NIAA, 2023b).

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The Balanggarra Rangers look after country both ways, using traditional knowledge and western scientific methods. Walking in both worlds with their knowledge allows Balanggarra Rangers to do 'right-way-fire management', look after cultural sites, undertake wildlife surveys and conduct weed management activities (NIAA, 2023b).




Source: DCCEEW, 2023b

Figure 4.26: Balanggarra Indigenous Protected Area

Bardi Jawi IPA

Declared in 2013, the Bardi Jawi IPA is located 160 kilometers north of Broome and includes over 126,990 ha of land and sea territory (DCCEEW, 2020). The IPA is located 626km from the Operational Area and the eastern extent of the EMBA overlaps the sea component of the IPA. As defined by hydrocarbon modelling (Section 8.6 and 8.7), no shoreline contact occurs with the land component of the IPA and the contact with the sea component is entrained hydrocarbon at the low threshold (thresholds defined in Section 8.5.3).

The IPA is dedicated under IUCN Categories IV (for the coastal section) and VI (for the inland and island areas). The coastal areas are of high conservation value because of their biodiversity and high cultural values. Management of the IPA is undertaken by the Bardi Jawi Rangers and the Bardi Jawi Oorany Rangers (provides opportunities for women to participate in on Country management).

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4.6.9.8 Aboriginal Heritage Sites

There are Aboriginal heritage sites under applicable Aboriginal heritage legislation along the northern Kimberley coastline; however, these are outside the EMBA. Cassini Island is within the EMBA, 300km to the west of the Operational Area. On the island are two registered Aboriginal Sites, the Cassini Stone Line and Cassini Stone Circles, both human-made structures. Cassini Island itself is a registered Heritage Place.

4.6.9.9 Australian Marine Parks

Eni acknowledges the EMBA for this EP overlaps with features of the North Marine Parks Network Management Plan (DNP, 2018a), the North-West Marine Parks Network Management Plan (DNP, 2018b) and other State managed marine park plans which identify natural, cultural and spiritual values associated with AMPs in the EMBA (refer Section 4.5.1). The Joseph Bonaparte Gulf AMP is referred to in the North Marine Parks Network Management Plan (DNP, 2018a).

Eni acknowledges Commonwealth and State Marine Park Management Plans recognise cultural features of Traditional Owner groups. AMPs describe taking 'values into account' when making decisions and taking action in relation to AMPs. Natural, cultural, heritage and socioeconomic values are associated with the AMPs and have been detailed in Appendix B.

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5 RELEVANT PERSON CONSULTATION

5.1 Overview

This section of the EP, in conjunction with Appendix C, describes consultation undertaken by Eni from May 2022 to April 2024 for the proposed Blacktip drilling activities.

In accordance with Regulation 24 of the OPGGS Regulations, the EP must contain:


- b) a report on all consultations between the titleholder and any relevant person, that contains:
 - i) a summary of each response made by a relevant person, and
 - ii) an assessment of the merits of any objection or claim about the adverse impact of each activity to which the environment plan relates, and
 - iii) a statement of the titleholder's response, or proposed response, if any, to each objection or claim.

Since the Blacktip facilities have been operational since 2009, Eni is familiar with local communities and other users of the marine environment in the region. Relevant persons previously identified have been continually informed of Blacktip activities and operations over the life of the asset, including those activities covered by the in-force Blacktip Operations EP (000036_DV_PR.HSE.0677.000).

The outcome of the Federal Court of Australia appeal decision in December 2022 (Santos NA Barossa Pty Ltd v Tipakalippa [2022]), represents the law regarding requirements for consultation in accordance with OPGGS Regulations. At the time of this court decision, this EP was under assessment by NOPSEMA and previous consultation for the submission had been made between July and September 2022. Following the court appeal, Eni revised its Blacktip Stakeholder Management Plan (SMP) to better reflect the intent of the court decision and commenced further consultation from July 2023. Appendices C4 and C5 include the outcomes of consultation undertaken in 2023/24 and 2022 respectively and include all information received from relevant persons up to 19 April 2024.

For the consultation described in this section of the EP and further presented Appendices C1 to C5, the guides considered were:

- NOPSEMA Guideline: Consultation in the course of preparing an environment plan (NOPSEMA, 2023)
- NOPSEMA Guideline: Consultation with Commonwealth agencies with responsibilities in the marine area (NOPSEMA, 2022b)
- NOPSEMA Guidance Note: Responding to public comment on environment plans (NOPSEMA, 2022b)
- NOPSEMA Guidance Note: Petroleum activities and Australian Marine Parks (NOPSEMA, 2020)
- NOPSEMA Guideline: Environment Plan Decision Making (NOPSEMA 2024)

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- Interim Engaging with First Nations People and Communities on Assessments and Approvals Under the *Environment Protection and Biodiversity Conservation Act 1999* (DCCEEW, 2023e)
- consultation approach for unplanned events (WAFIC, 2023)
- Australian Fisheries Management Authority: Petroleum industry consultation with the commercial fishing industry (AFMA, 2023).

5.2 Identified Relevant Persons

As described above, two consultation campaigns have been undertaken for the Blacktip drilling activities (2022 and 2023). Through the processes described in the Blacktip SMP Bridging Document (Appendix C1), Eni identified relevant persons which were in addition to those already identified during the 2022 consultation.

Eni conducted initial review of the Blacktip SMP Stakeholder Register through desktop analysis to confirm data about relevant prescribed bodies corporate (PBCs), regional councils (NT and WA) potential community leaders, and other stakeholders that may have an interest in the proposed activities.


Further to the process described above, another opportunity for identifying the relevant person was done through in-person meetings, based on local knowledge and further identification proposed by local connections.

Whilst the process for relevant person identification is outlined in Part 3 of the Blacktip SMP Bridging Document (Appendix C1), A complete list of relevant persons applicable to the Blacktip drilling activities is presented in Appendix C2 (Relevant Persons Register).

5.3 Consultation Approaches and Activities

Following identification of relevant persons, and as outlined in Part 5.1 of the Blacktip SMP Bridging Document (Appendix C1), Eni's process for consultation was:

1. Issuance of emails to all relevant persons providing summary of activity and seeking a response should they wish to consult.
2. Email and high-level information pack distribution to all stakeholders with initial default response period of 30 business days.
3. Mail-out of high-level information pack distribution to selected stakeholders upon receipt of direct addresses – default response period of 30 business days.
4. Phone calls as a follow up to initial email to all relevant persons with functions, interests or activities that overlap with the EMBA (predominantly low exposure zone) and the ZPI (moderate exposure zone).
5. Where phone numbers were available, further phone/email/text messages were sent to follow up calls & emails to identified relevant persons.

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6. Review of Relevant Persons Consultations Log (Appendix C4a) to ensure appropriate consultation with relevant persons had taken place.

A range of other engagement methods were considered and offered as appropriate, including:

- Announcement, ahead of time, of visits to relevant persons, through subject matter experts / associations that relate to regional stakeholders.
- Targeted materials (e.g., slides & handouts), distributed via meetings/roadshows with question-and-answer sessions (both in person and online).
- In person meetings/roadshows with support from subject matter experts / associations where targeted materials were distributed alongside the opportunity for question-and-answer sessions.
- Online meetings where targeted materials were issued and discussed alongside the opportunity for question-and-answer sessions.

Where there was still no response received, further tailored emails, direct phone calls and texts by the Eni stakeholder focal point to directly engage with relevant persons with functions, interests or activities that overlap the ZPI (moderate exposure zone) and with the EMBA (predominantly low exposure zone).

Eni used a range of tools to consult with relevant persons in the most appropriate and effective manner. As described in Appendix C1, specific consultation approaches are required for certain groups of relevant persons.


Prior to consultation, slides and handout materials were prepared with the intention of summarising the content of the Environment Plan prepared for Drilling in the format most suitable for the public and align with Regulation 25(2) (and NOPSEMA's Guideline: Consultation in the course of preparing an environment plan).

The flyers or handout materials were tailored to convey information such as:

- description of the activity, including location, timing and duration
- description and map of EMBA
- detail list of potential risks, potential impacts and mitigations and controls measures
- description of NOPSEMA's requirements
- Eni's contact details.

Upon request from some relevant persons, other engagement methods were used to exchange information, being:

- written documentation (e.g., presentation of materials/slides)
- verbal communication during phone calls (pre-emptory, in response or follow up),

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- targeted meetings and/or information sessions.

The set of consultation approaches and materials that were used for the consultation for this EP, and examples, are presented in Appendix C3.

5.3.1 Consultation Requirements

Specific requirements for consultation were considered for each relevant person to ensure they received appropriate consultation information and materials.


Over the course of consultation for the EP, some relevant persons requested and/or required a different level of engagement. In these instances, additional information was provided to allow that relevant person to make an informed decision as to potential consequences or impacts to their specific functions, interests or activities with regards to the proposed Blacktip drilling activities. Similarly, other relevant persons requested a lower level of engagement, such as indicating a preference for email rather than in-person meetings.

While there was no material difference in the activities proposed in the 2022 relevant person consultation compared to that of 2023/24, the consultation material was revised and these stakeholders were sent updated 2023/24 material (as per Appendix C3), which included further details about the drilling activities and timing.

In most circumstances, initial engagement was through email, with the 2022 or 2023 Blacktip Drilling Material Factsheet (Appendix C3) attached. This material contained a summary of the activity, location map, coordinates, water depth, distance to key regional features, exclusion zone details, potential risks and impacts and management measures, and estimated timing and duration.

Eni also sent a consultation team on two occasions to travel directly to locations in NT (including Tiwi Islands), the East Kimberley and the Dampier Peninsula in order to hold face to face meetings and/or roadshow visits with relevant persons. During the visits, Eni's consultation team took the liberty of, prior to the visits, firstly contacting all relevant persons in the respective locations via text, phone, email and third parties to announce of the visit and seek meetings, and then also both formally and informally approaching for targeted consultation.

The 2023/24 material further outlined potential risks and impacts together with a more detailed summary of proposed management measures/controls. Updated materials also included slide-packs prepared for specific relevant persons during in-person meetings. The slides were designed to encourage discussion through displaying simplified maps of the location, identified cultural matters locations (where relevant) and social initiatives programs that Eni is implementing in Wadeye.

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5.3.1.1 Commercial Fisheries Approaches

As mentioned in Appendix C1, the designated licenced areas of many of the fisheries are extensive over the Australian coast, including within the EMBA. The EP provides an assessment of the potential interaction of the various fisheries with the petroleum activities, based on the nature of the fishery and historic effort and catch data. Based on this data and historic consultation efforts for the Blacktip Project petroleum activities, it was initially determined that the only commercial fishery with effort in proximity (approximately 50km) to the petroleum activities was the Northern Prawn Fishery. The Northern Prawn Fishery peak body was hence provided with more detailed specific information about the proposed activities. Note that Eni has also established consultation with the Northern Prawn Fishery peak body for historic Blacktip Project petroleum activities.


Given all planned petroleum activities occur within the already in place 500m petroleum safety zone around the wellhead platform, interaction with commercial fisheries is not anticipated. Nevertheless, Eni approached the peak bodies representing the commercial fisheries for Commonwealth, WA and NT, and provided consultation materials. Eni considered the peak bodies to be established representatives of the fishing licence holders. Whilst some peak bodies replied on behalf of those fisheries that they represented, Eni went further to ensure direct engagement with individual license holders where peak body representation could not be established. Eni sent NT fisheries individual license holders two further letters of correspondence.

5.3.1.2 Traditional Indonesian Fishers Approaches

As described in Section 4.6.2 the EMBA overlaps the MoU Box. However, Indonesian traditional fishing effort is largely focused on shallow waters (e.g. banks and shoals), particularly around Scott Reef (outside of the EMBA). Given the traditional nature of the fishery and there is no requirement for the fishery to be licensed, a register of contact details is not maintained (either by Indonesian or Australian government) or publicly available, as such there is no way to identify these individuals. Eni therefore has no reasonable means of identifying or contacting these individuals. Eni has inferred that the interest of these persons is similar as those licensed commercial fisheries (referred to in the above section).

5.3.1.3 First Nations Engagement Approaches

As described in Appendix C1, in the first instance, Eni has used Land Councils and registered PBCs to facilitate consultation with First Nations relevant persons. Since July 2023, Eni has made considerable efforts to engage with the Kimberley Land Council, the Northern Land Council and the Tiwi Land Council. Some of these Land Councils expressed a lack of resources and shared that they could not facilitate Eni in the consultation process. These Land Councils, although relevant persons in their own right, have indicated the importance of engaging with Traditional Owners through the PBCs. As such, Eni engaged directly with PBCs through extended enquiry notifications, broader, focused higher-level consultation, and where required, targeted and tailored information sharing.

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In consideration of advice by Land Councils, Eni commenced engagement through contacting PBCs directly, distributing a flyers and information pack via emails and as additional support, engaging third parties to facilitate direct meetings and roadshow planning.

Eni is aware there may be potentially relevant persons for this EP based in remote areas of WA and NT, as such, Eni opted to use third parties with its connections to the Traditional Owners and PBCs to be able to distribute the information pack as well as organising in-person meetings and roadshows. In respect of hierarchy within First Nations, Eni's approach focused on meetings with the authorised decision makers within the community, such as Traditional Owners, language groups, clans and/or community leaders.

At completion of in-person and roadshow meetings across First Nation communities, Eni sent follow up emails to individuals who had been engaged with directly, to provide them with digital versions of flyers and slides. The emails were another opportunity, and a further alternative means of communication for relevant person to provide their feedback.


In parallel to the above steps, Eni also used other broader consultation methods to engage with First Nations, as presented in Appendix C3 (consultation material) and Appendix C4 (2023/24 relevant person consultation records).

Even following the Consultation Period, although consultation for the purposes of compliance with Section 25 of the OPGGS(E) Regulations has been completed, Eni will continue to maintain, its efforts to engage in continued dialogue with these Land Councils and PBCs to allow for relevant interested persons engagement throughout the execution of the planned activities, as per section 22(15) of the OPGGS(E) Regulations

Thamarrurr Region Engagement

As presented in Section 4.6.9, Eni already has a partnership with the Thamarrurr Development Commission (TDC) – Thamarrurr Rangers and has partnered them in a Marine Park Management Plan exercise to map the ecological and cultural values of Sea Country in the Thamarrurr Region. The results of this mapping exercise were published by Streten *et al.* (2020) in the APPEA Journal under the title 'Mapping traditional ecological knowledge of Sea Country to understand biodiversity and areas of cultural importance'. Eni continues to maintain a good relationship with the Thamarrurr Rangers.

Eni advertised in the Wadeye TDC Newsletter with the aim for relevant persons to attend a community booth set up in Wadeye on August 31, 2023. During the booth meetings of direct communication in Wadeye, Eni distributed flyers to ensure opportunity for self-identification of relevant persons within the community.

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Eni considers that consultation has concluded following the Wadey/TDC engagements and Roadshow meeting, including follow-up emails sent to relevant persons. That said, and as outlined in Appendix C1, an ongoing engagement process is occurring in the Thamarrurr Region through Eni's attendance at monthly community meetings, and Eni will continue to maintain efforts to engage in continued dialogue with TDC and Thamarrurr Rangers to allow for relevant interested persons engagement throughout the execution of the planned activities, as per section 22(15) of the OPGGS(E) Regulations.

Kimberley Region Engagement

After unsuccessful attempts of engaging with, and seeking support from Kimberley Land Council, Eni engaged KRED Enterprises (<https://www.kred.org.au/>) to facilitate engagement with First Nations people within the Kimberley. KRED Enterprises was selected due to:

- KRED's expertise and unique knowledge of the Traditional Owner groups and PBC's across the Kimberley Region.
- KRED's experience/connection of and to the *Native Title Act*
- KRED's abilities to facilitate meetings with Traditional Owner groups linked to the EMBA
- referrals from other offshore oil and gas titleholders.


Eni, held a workshop with KRED, to identify PBCs that fall within the EMBA (through the process outlined in Appendix C1 and noting KRED's expertise and unique knowledge of the Traditional Owner groups in the Kimberley) and then commenced initial engagement through emails. Emails were sent by KRED, which included flyers with summary information about Eni's process to prepare the EP, as well as invitations for relevant persons to identify themselves.

Information packs or flyers were also distributed by KRED directly to CEOs and/or Chairpersons of PBCs and explicitly sought their support to organise information sessions with their members.

KRED then informed PBCs on Eni's visit dates to the East Kimberley and Dampier Peninsula and arranged for roadshow / site visits to all the relevant PBCs (affected by the EMBA) to hold public gatherings or targeted meetings.

During the roadshow and site visits, Eni was accompanied by a Liaison Officer assigned through EHSIS (Environmental Heritage & Social Impact Services Pty Ltd), which is a subsidiary of KRED. The presence of the Liaison Officer allowed for ease in relating to and in connecting with the local community. The extensive network of connections of the Liaison Officer supported the information sharing process. With the presence of the Liaison Officer, most community leaders or Traditional Owners expressed comfort in entering into conversations with Eni's consultation team.

Throughout each meeting, Eni presented the prepared slides, handed over flyers and followed up with emails to each person. Eni also posted flyers on notice boards in locations with high traffic of people and greater opportunity to be noticed, including police stations and community centres.

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Eni considers that consultation has concluded following the Kimberley engagements and Roadshow meetings, including follow-up emails sent to relevant persons. That said, and as outlined in Appendix C1, Eni will continue to maintain efforts to engage in continued dialogue with the KLC and Kimberley PBC's to allow for relevant interested persons engagement throughout the execution of the planned activities, as per section 22(15) of the OPGGS(E) Regulations.

Broader NT Engagement Including Tiwi Islands

Engagement with Northern Land Council (NLC) was initiated with meetings and sharing information through emails, mainly seeking support with the community engagement. Eni was advised by the NLC to proceed with the community engagements without the involvement of NLC.

In respect of hierarchy within the local community within the Tiwi Islands, Eni sought the support of, and direction from, the Tiwi Land Council in engaging with Traditional Owners or other relevant persons within the Tiwi Islands

Several meetings were held with the Tiwi Land Council (TLC) and an information pack was distributed to TLC via emails.


Eni considers that consultation has concluded following the broader NT engagements (including Tiwi Islands) and meetings, including follow-up emails sent to relevant persons. That said, and as outlined in Appendix C1, Eni will continue to maintain efforts to engage in continued dialogue with the broader NT and Tiwi Islands to allow for relevant interested persons engagement throughout the execution of the planned activities, as per section 22(15) of the OPGGS (E) Regulations.

5.3.2 Consultation During Environment Plan Development

In August 2022, Eni commenced consultation with relevant persons for the proposed planned activities described in this EP. As described above, updated material was sent to a redefined relevant person (Relevant Persons Register, Appendix C2) list in July 2023 following the outcome of the Federal Court of Australia appeal decision in December 2022 (Santos NA Barossa Pty Ltd v Tipakalippa [2022]).

As described in Appendix C1, the consultation period with relevant persons during development of the EP was outlined within the consultation material (2023 Blacktip Drilling Material Factsheet) at initially 31 July (approximately six weeks). However, subsequent deadlines for receiving comments were set when no response was received and communicated to the relevant persons. Eni continued to follow up with relevant persons until 19 April 2024 and consultation process was considered concluded at this point (further described in Section 5.4 - Consultation Outcomes). This is considered as a reasonable period for comments to be submitted to Eni and represents and 10-month duration from the first consultation materials being provided to most relevant persons. It should also be noted:

- Eni originally submitted materials to relevant persons during development of the EP in 2022. At the time of the Federal Court of Australia appeal decision in December 2022 (Santos NA Barossa Pty Ltd v Tipakalippa [2022]), the EP was under

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assessment by NOPSEMA and previous consultation for the submission had been made between July and September 2022.

- Since the Blacktip facilities have been operational since 2009, Eni is familiar with local communities and other users of the marine environment in the region. Previously identified relevant persons have been regularly informed of Blacktip activities and operations over the life of the asset.

Multiple attempts were made to contact all relevant persons during the consultation period, and in instances where no response was received, other targeted mechanisms in different forms (i.e., phone calls, text messages, face-to face visits) were used to facilitate Eni’s requirement to consult with relevant persons on the activities.

Per Section 26(8) of the OPGGS (E) Regulations, the full records of all correspondence and interactions with relevant persons are discretely provided in the sensitive information part of this Environmental Plan.

5.3.3 Extended Enquiry (Broader Consultation)

Eni recognises there may be instances where other persons, organisations, departments or agencies may consider themselves relevant and wish to be included in the consultation process. Therefore, as an additional proactive step, Eni undertook:


- leafletting during roadshows or site visits (e.g., leaving consultation material leaflets in community centres and high traffic areas)
- local newspaper advertisement campaigns
- Advertisements on local radio stations.

The objective of this approach was to help identify any other relevant persons that may not have already been identified. The extended enquiry activities also provided another means of broadcasting information to existing relevant persons.

Table 5.1 provides details on the broader enquiry efforts including the papers, radio stations and classified adverts where the consultation material were broadcasted.

Table 5.1: Broader enquiry efforts

Method	Broadcast company	Dates
Newspaper	NT News	20 th , 22 nd , 23 rd , 27 th , 29 th and 30 th December 2023
	The West	20 th , 22 nd , 23 rd , 27 th , 29 th and 30 th December 2023
	Kimberly Echo	21 st December 2023
Radio	Darwin’s mix 104.9	22 nd to 30 th December, twice per day at 1 minute in length
	First Nations Radio	17 th and 24 th December 2023
	Palmerston FM 88	17 th and 24 th December 2023
TDC Monthly Newsletter	Thamarrur Devt. Corporation	August 2023

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Whilst Eni have undertaken a range of approaches to capture a board audience and recognise the benefits of this, Eni has focussed on in person efforts during the site visits, which Eni considers has yielded greater results compared with the efforts made through advertisement campaigns.

5.3.4 Consultation Outcomes

In accordance with Section 24(b) of the OPGGS(E) Regulations, reports on all consultations from the 2023/24 and 2022 consultation campaigns are presented as Appendix C4 and C5 respectively. Appendix C4 is deconstructed into Appendix C4a and C4b to clearly reflect the Relevant Persons Consultations Log and Relevant Persons Consultations Feedback Assessment respectively.

Appendix C4b (Relevant Persons Consultations Feedback Assessment) also outlines Eni's statements of responses to objections or claims.

As outlined in Section 6.3 of the Blacktip SMP Bridging Document (Appendix C1), and in alignment with OPGGS(E) Regulation 24, application, interpretation and responsiveness with regards to all feedback received from relevant persons was undertaken at all times. For relevant persons who provided feedback, and following assessment of the merits of their objection or claim, Eni provided a response to the relevant person advising them of the assessment and invited them to further respond. This is reflected in the *Relevant Persons Consultations Feedback Assessment* (Appendix C4b). For statements issued by Eni of both acceptance and rejection of objections and/or claims, there were numerous relevant persons that chose not to further respond.


Numerous relevant persons chose not to reply or engage with Eni at all, and as described in Appendix C1, where no response or acknowledgement of receipt of consultation materials was received by Eni, the actions undertaken were:

- follow-up emails post issue of initial consultation materials
- alternative methods of contact where appropriate and available (e.g., phone call, in person visits).

Eni sought to consult all relevant persons since issuing initial information regarding this EP, and then made subsequent consultation efforts in accordance with its consultation approach (outlined in Appendix C1). Eni ensured provision of sufficient information to allow relevant persons to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests, or activities, and provided a reasonable period for relevant person to provide objections or claims in relation to the EP and for consultation to occur.

After multiple attempts were exhausted and the consultation period was extended and then closed, under these circumstances, Eni deemed consultation in the course of the preparation of the EP has been completed in accordance with OPGGS[E] regulations.

There were some instances where Eni attempted to identify relevant persons but were unable to confirm individual contact details within the initial consultation period (contact details of individual commercial fishers were an example of this). Eni undertook the following best endeavours to ensure contact with relevant persons:

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- contacting government departments who may have had contact details of individual relevant persons;
- contacting associated organisations and/or advocacy groups who may have had contact details of individual relevant persons;
- leveraging off other relevant persons who had contact details of certain individual relevant persons.

To conclude, the in-total 10-month duration with appropriate follow-up of relevant persons since the second consultation period commenced in June 2023, is considered a reasonable time for relevant persons to have had opportunity to make an informed assessment of the possible consequences of the petroleum activities on their functions, interests or activities, in accordance with the requirements of subregulation 25(3) of the OPGGS(E) Regulations and provide a response.


5.4 Ongoing Consultation

Relevant and interested person consultation for the Blacktip drilling activities will be ongoing, post-acceptance of this EP in accordance with section 22(15) of the OPGGS(E) Regulations. Eni will work with relevant and interested persons and organisations to develop and maintain a current and comprehensive view of relevant persons' and organisations' functions, interests and activities, and provide opportunity for enquiries, objections or claims by relevant persons and organisations in the lead up to and during the conduct of the planned activities. As outlined in part 3.1 of the Blacktip SMP Bridging Document (Appendix C1), should any new relevant persons and/or organisations be identified, they will be added to the stakeholder database and included in all future correspondence as required, including specific activity notifications.

Notably, Eni's intention is to now consistently plan multiple visits to NT (including Tiwi Islands), the East Kimberley and Dampier Peninsula communities. The purpose of this will be to engage in an ongoing way, with interested and relevant persons and organisations. Where the opportunity arises, Eni will seek to consistently engage with the various groups in order to:

- continue to provide bi-monthly updates about the progress of the activities
- respond in person to clarifications raised in collaboratively coordinated meetings across the three regions
- respond in person to informal clarifications; and
- invite and respond to feedback from relevant persons and where necessary adjust the EP through the Management of Change processes.

Given the proximity of Wadeye Community to Blacktip Operations, an engagement process will be occurring in an ongoing fashion in the Thamarrurr Region through both Eni's attendance to monthly community service meetings, as well as following up with collaboratively coordinated meetings (with Thamarrurr Development Corporation) between Eni and the broader Wadeye Community. Eni continues to work with the Thamarrurr Rangers in the provision of services that will support Blacktip activities.


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Eni will continue to accept feedback from all relevant and interested persons and organisations during the assessment of this EP and throughout the duration of the accepted EP. Where any new information is received, that is assessed as a new relevant matter or objection/claim with merit, the EP will be updated in accordance with the management of change (MoC) process described in Section 10.12 ensuring risks remain managed to ALARP and acceptable levels.

Additional consultation with relevant persons will occur in the event there is a significant change to the proposed activities.

It should be noted that as outlined in Part 7 of the Blacktip SMP Bridging Document (Appendix C1), outside of regulatory compliance, and hence outside of this 'preparation of EP' consultation, Eni conducts external relations engagement as a matter of best practice. Eni sees that it is good corporate social responsibility to engage with stakeholders within or near our footprint; we look to build partnerships and potential long-term value proposition opportunities; and by continuing to talk to stakeholders, we gain better knowledge of the context, needs and interests of these stakeholders.

Whilst Eni has been conducting 'meet and greets' across the Kimberley and Northern Territory regions, and whilst this may assist in building and maintaining of relationships, it is not considered a part of any Environment Plan consultation process.

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6 ENVIRONMENTAL RISK ASSESSMENT METHODOLOGY

6.1 Risk Assessment

In accordance with OPGGS(E) Regulation 21(5), the EP must contain:

- (a) details of the environmental impacts and risks for the activity, and
- (b) an evaluation of all the impacts and risks, appropriate to the nature and scale of each impact or risk, and
- (c) details of the control measures that will be used to reduce the impacts and risks of the activity to as low as reasonably practicable and an acceptable level.

To meet this requirement, Eni has implemented its HSE Risk Management and Hazard Identification Procedure (ENI-HSE-PR-001). The purpose of the procedure is to ensure the HSE, asset and reputational hazards are identified, risk-assessed and managed in a systematic and consistent way. In this way, risks associated with projects and operational changes are effectively managed and addressed in compliance with company and legislative requirements.

The procedure is based on Eni's philosophy that to manage environmental risks is to eliminate or mitigate the risk during the planning phase. Managing risks through design is contingent upon identifying, at an early stage in the project, the sources and pathways by which environmental impacts can occur, and the sensitivities of the receiving environment in which the project is situated. Where risks and impacts are unable to be eliminated at the project planning phase, the HSE Risk Management and Hazard Identification Procedure provides a robust framework that must be applied to understand the residual risk and impact from the key project activities covered in this EP.

The procedure is consistent with the Australian Standard for Risk Management: ISO 31000:2018 Risk Management – Principles and Guidelines and ISO 14001:2015 Environmental Management Systems. A general outline of the formal risk management process is provided in Figure 6.1.

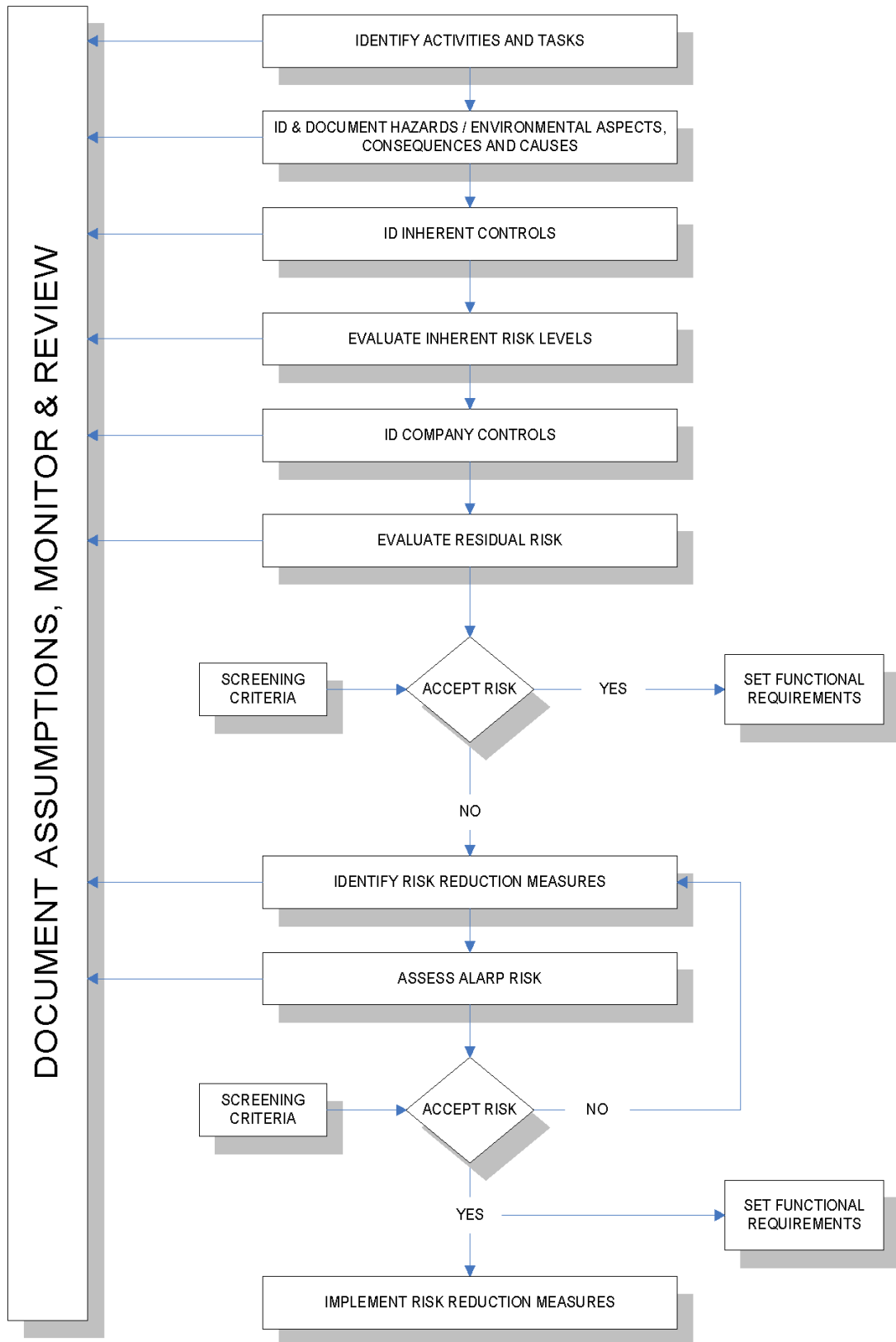



Figure 6.1: Overview of the risk management process

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Before commencing a systematic risk assessment process, it is essential to ensure the context of the risk assessment (why, when, who, what, where) is fully understood. This is achieved by identifying the:

1. project activities and tasks, the sources of impact and risk, and the associated environmental aspects
2. environmental values and sensitivities within and adjacent to the Operational Area and the EMBA.

Using that information, the process continues by:

3. defining the potential environmental effects (impacts and risks) of aspects identified in Step 1 on the values identified in Step 2.
4. identifying the potential environmental consequences and severity of the impact (Table 6.1)
5. identifying the likelihood of occurrence of the consequence, according to a six-level scale (Table 6.2)
6. evaluating overall environmental risk levels using the Eni environmental risk matrix (Figure 6.2)
7. identifying mitigation measures, assigning management actions and further recommended risk reduction measures according to the hierarchy of controls (Table 6.3), with consideration of the risk management actions (Table 6.4), to reduce the risk to an acceptable level.

Inherent risk levels assume inherent controls are in place. Residual risk levels are based on the inherent controls and the application of additional risk reduction measures.


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Table 6.1: Environmental consequence descriptors

Descriptor	Description
(1) Slight	<p>No stakeholder impact OR temporary impact on the area. Involved area less than 0.1 sq mile. Spill less than 1m³ – no sensitive impact on ground. Small discharges with confined and temporary impact on the area. No noticeable impact on water, air, soil and biodiversity. Negligible impact due to GHG emissions. Good materials, energy and water selection and use. Negligible financial consequences.</p>
(2) Minor	<p>Some local stakeholder concern or less than one week for clean-up OR one year for natural recovery OR impact on a small number of uncompromised species. Involved area less than 1 sq mile. Spill less than 10m³ – impact on localised ground. Sufficiently large discharges to impact the environment, but no long-lasting effect. Short-term, localised impact on water, air, soil and biodiversity (on a limited number of non-threatened species). Slight impact due to GHG emissions. Adequate materials, energy and water selection and use. Single breach of statutory or prescribed limit, or single complaint.</p>
(3) Local	<p>Regional stakeholder concern OR one to two years for natural recovery OR one week for clean-up OR threatening to some species or impact on protected natural areas. Involved area < 10 sq miles. Spill less than 100m³. Limited discharges affecting the neighbourhood and damaging the environment with longer effects. Short-term, more widespread impact on water, air, soil and biodiversity (on a higher number of non-threatened species). Limited impact due to GHG emissions. Inadequate materials, energy and water selection and use. Repeated breaches of statutory or prescribed limit, or many complaints.</p>
(4) Major	<p>National stakeholder concern OR impact on licences OR two to five years for natural recovery OR up to five months for clean-up OR threatening to biodiversity or impact on interesting areas for science. Involved area less than 100sq miles. Spill less than 1000m³. Large discharges with severe and long-lasting environmental damage. Medium-term, widespread impact on water, air, soil and biodiversity (on some threatened species or one ecosystem function). Extensive measures (financially significant) required to restore the impacted area Significant impact due to GHG emissions. Poor materials, energy and water selection and use. Extended breaches of statutory or prescribed limits, or widespread nuisance.</p>
(5) Extensive	<p>International stakeholder concern OR impact on licences and acquisitions OR more than five years for natural recovery OR less than five months for clean-up OR reduction of biodiversity OR impact on special conservation areas. Involved area greater than 100sq miles. Spill greater than 1000m³. Large discharges with severe and persistent environmental damage. Long-term, broad-scale impact on water, air, soil and biodiversity (likely permanent species loss and impact on ecosystem function). Very poor materials, energy and water selection and use. Extensive impact due to GHG emissions. Major financial consequences for the Company. Ongoing breaches well above statutory or prescribed limits.</p>


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Table 6.2: Likelihood scale

ID	Likelihood	Frequency (occurrence per year)	Description
0	Non-credible	$<10^{-6}$ occ/y	Theoretically possible but not known or reasonably expected to have occurred in the exploration and production industry
A	Rare	$10^{-6} \leq \text{occ/y} < 10^{-4}$	Known or reasonably expected to have occurred in the exploration and production industry under similar circumstances
B	Unlikely	$10^{-4} \leq \text{occ/y} < 10^{-3}$	Known or reasonably expected to have occurred in company under similar circumstances
C	Possible	$10^{-3} \leq \text{occ/y} < 10^{-1}$	Known or reasonably expected to have occurred in the company more than once under similar circumstances
D	Likely	$10^{-1} \leq \text{occ/y} < 1$	Known or reasonably expected to have occurred in the company more than once a year under similar circumstances
E	Almost certain	≥ 1 occ/y	Known or reasonably expected to have occurred at the considered location, more than once a year under similar circumstances

Table 6.3: Hierarchy of controls

Control Category	Description
Elimination	The causes of the hazardous event are removed such that it is no longer credible it will occur
Substitution (alternatives)	Replace with a less hazardous substance or method; for example, use a wet method instead of dry and introduce a non-dusting powder for one that is friable
Engineering (plant and equipment)	Physical controls; for example, containment, exhaust ventilation, mechanical aids
Procedural (signage, warnings or administrative)	Human controls; for example, supervision, work methods, housekeeping, personal hygiene, information, instruction and training
Personal protective equipment	In all cases, use of personal protective equipment should be considered as the only barrier only when control measures within the above categories are not practicable


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Table 6.4: Risk management actions

Risk Rating	Significance	Risk Management Actions
Low (blue)	Continuous improvement	The level of risk is broadly acceptable and generic control measures are required, aimed at avoiding deterioration ¹ .
Medium (yellow)	Risk reduction measure	The level of risk can be tolerable only once a structured review of the risk reduction measures has been performed; where necessary, the relevant guidance from the local authorities should be adopted for application of ALARP. ALARP is a concept that applies well to personnel and environmental risk. Asset risk is often most easily judged on a basis of costs and benefits alone.
Medium-High (orange)	Risk reduction measure	The level of risk can be tolerable only once a structured review of the risk reduction measures has been performed; where necessary, the relevant guidance from the local authorities should be adopted for application of ALARP. ALARP is a concept that applies well to personnel and environmental risk. Asset risk is often most easily judged on a basis of costs and benefits alone ² .
High (red)	Intolerable risk	The level of risk is not acceptable and risk control measures are required to lower the risk to another level of significance.

Note 1: The exception to the appropriate risk management actions for the Low risks are where a low risk to people is identified on the matrix position A3, then risk reduction measures are required.

Note 2 The exception to the appropriate risk management actions for Medium-High risk is the case of a 4B risk where the impact is on third parties onshore and is considered intolerable.



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Consequence					Likelihood or Annual Frequency					
Severity	Company Reputation	People (Health & Safety)	Environment	Assets / Project	0	A	B	C	D	E
					0 - Non credible / Could happen in E&P industry (Freq <10-6 /y)	A - Rare / Reported for E&P industry (Freq 10-6 to 10-4 /y)	B - Unlikely / Has occurred at least once in Company (Freq 10-4 to 10-3 /y)	C - Credible / Has occurred several times in Company (Freq 10-3 to 10-1 /y)	D - Probable / Happens several times per year in Company (Freq 10-1 to 1 /y)	E - Frequent / Several times per year at one location (Freq >1 /y)
1	1-Slight impact	1-Slight health effect / injury	1-Slight effect	1-Slight damage	Low	Low	Low	Low	Low	Low
2	2-Minor impact	2-Minor health effect / injury	2-Minor effect	2-Minor damage	Low	Low	Low	Medium	Medium	Medium
3	3-Local impact	3-Major health effect / injury	3-Local effect	3-Local damage	Low	Low	Medium	Medium - High	High	High
4	4-National impact	4-PTD or single fatality	4-Major effect	4-Major damage	Low	Medium	Medium - High	High	High	High
5	5-International impact	5-Multiple fatalities	5-Extensive effect	5-Extensive damage	Medium	Medium - High	High	High	High	High

Figure 6.2: Eni environmental risk matrix

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6.1.1 Environmental Risk Identification Workshops

An environmental risk identification and assessment workshop for the Blacktip drilling activities was undertaken in May 2022, August 2022 and December 2023 (to include intervention activities and outcomes of the relevant person consultation). The workshop was attended by a representative cross-section of the Blacktip workforce, including Eni drilling engineers and HSE personnel.

All the credible risks from the Blacktip drilling activities were assessed and Environmental Performance Objectives (EPOs), Environmental Performance Standards (EPSs) and Measurement Criteria (MC) to reduce impacts and risks to ALARP and acceptable levels were developed, as detailed in Sections 7 and 8 and summarised in Table 9.2.

6.2 Risk Reduction

Impacts or risks identified as requiring additional controls (the application of mitigation and management measures beyond what is standard practice for offshore petroleum activities) are subject to further review to identify the controls that are required to be provided or modified in order to reduce the residual risk.

Risk assessment is an iterative process of:

- identifying a risk
- assessing a risk
- deciding whether residual risk is tolerable
- if not tolerable, generating a new risk or mitigation measures
- assessing the effectiveness of the mitigation measures.

The acceptability of a risk, after controls and mitigation measures have been applied, is determined in accordance with ratings and associated management actions outlined in Table 6.4.


6.3 As Low as Reasonably Practicable and Acceptance Criteria

6.3.1 As Low as Reasonably Practicable Criteria

The ALARP principle recognises no industrial activity is entirely risk free. ALARP is defined as a level of impact and risk that is not unacceptable and cannot be reduced further without the expenditure of costs that are disproportionate to the benefit gained. Cost may be in terms of financial, health, safety and schedule implications.

OPGGS(E) Regulation 34 requires a demonstration that environmental impacts will be reduced to ALARP. For risks to be considered as reduced to ALARP, one of the following criteria must apply:

- There are no reasonably practicable alternatives to the activity.
- The cost (in other words, sacrifice) for implementing further measure is disproportionate to the reduction in risk.

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When deciding whether risks are managed to ALARP, the items considered were:

- risk level
- existing layers of protection, including both preventive and mitigative controls
- feasibility of additional controls or alternative arrangements
- practicality of additional controls or alternative arrangements
- cost of additional controls or alternative arrangements
- effectiveness of additional controls or alternative arrangements
- impact on risks from additional controls or alternative arrangements.

6.3.2 Acceptance Criteria

OPGG(S)(E) Regulation 34 requires a demonstration that environmental impacts are of an acceptable level.

Eni considered a range of factors when evaluating the acceptability of environmental impacts associated with its activities. The evaluation criteria are outlined in Table 6.5.



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Table 6.5: Eni acceptability factors

Demonstration of acceptability	
Compliance with legal requirements, laws, and standards	Considers the legal aspect, particularly compliance with applicable legislative prescriptions and regulations in force which imply specific procedures to be performed by the Titleholder to control the environmental aspect.
Policy compliance	The risk or impact must be compliant with the objectives of Eni policies.
Social acceptability	Considers the 'social' aspects that can alter stakeholder perception of the Titleholder's commitment regarding the safeguard and protection of the environment and that can cause serious harm to the Titleholder's public image.
Area sensitivity/biodiversity	The proposed risk or impact controls, EPOs and EPSs must be consistent with the nature of the receiving environment.
Environmentally sustainable development principles	The overall activity is consistent with principles of ESD ¹ .
ALARP	There is a consensus among the risk assessment team that risks, or impacts are ALARP.

Note 1: The principles of ESD (as defined in Section 3A of the Commonwealth EPBC Act, including:

- Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations (the 'integration principle').
- If there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the 'precautionary principle').
- The principle of intergenerational equity – that the present generation should ensure the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (the 'intergenerational principle').
- The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision making (the 'biodiversity principle').
- Improved valuation, pricing and incentive mechanisms should be promoted (the 'valuation principle').

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7 ENVIRONMENTAL RISK ASSESSMENT – PLANNED OPERATIONS

7.1 Interaction with Other Marine Users (Risk ID P1)

7.1.1 Summary of Environmental Risk Assessment

Hazard	Interaction with Other Marine Users		
	Frequency	Severity	Risk
Inherent Risk	B	1	L
Residual Risk	A	1	L

7.1.2 Description of Hazard

The Blacktip drilling activities will occur within the WHP 500m PSZ. The jack-up MODU will be on location continuously for the period of the activities, with support from up to three vessels (refer Section 3.6.1). The presence of the 500m PSZ, which extends around the jack-up MODU and the WHP, has the potential to exclude or displace some activities by other marine users.


7.1.3 Potential Environmental Impact

7.1.3.1 Shipping

To reduce the likelihood of interactions between commercial vessels and offshore facilities, AMSA has introduced shipping fairways within which commercial vessels are advised to navigate. The fairways are not mandatory, but AMSA strongly recommends commercial vessels remain within the fairways when transiting the region. As discussed in Section 4.6.4, the nearest shipping fairway is 100km from the Operational Area and therefore the presence of the vessels and jack-up MODU is unlikely to cause any disturbance or displacement of shipping traffic.

The WHP (where the Blacktip drilling activities occurs) has been operational since 2009 and no incidence of interactions with other marine users have been recorded. The WHP is marked on nautical charts surrounded by a 500m PSZ and shipping activities are excluded from this area; therefore, interaction between commercial vessels and the Blacktip drilling activities is not anticipated.

Given all shipping vessels and Blacktip vessels are required to comply with the International Regulations for Preventing Collisions at Sea, the *Navigation Act 2012* and associated Marine Orders, it is expected navigational and communicative aids are sufficient to prevent any negative interactions beyond basic avoidance. The risk to commercial shipping is considered slight.

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7.1.3.2 Commercial Fisheries

A number of Commonwealth and State (WA and NT) fishery management areas are located within the Operational Area and wider EMBA (Section 4.6.1). The Annual Fishery Status Reports published by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) were used to identify if Commonwealth managed fisheries have fished and were active within the Operational Area and EMBA in the last five years. FishCube data was also requested from the WA Department of Primary Industries and Regional Development (DPIRD) for the most recently available five-year period of fishery catch and effort data (2018--2022) to analyse the potential for interaction of fisheries with the Operational Area. Data was reviewed from the last complete five years data, as an indication of past fishing effort. This was deemed an appropriate period to represent potential future fishing effort during this EP. Based on an analysis of the current fishery closures, depth range of activity, historical fishing effort data, fishing methods and consultation feedback (refer to Section 5), there is a low potential for interaction with commercial fisheries in the Operational Area.

The Northern Prawn Fishery is the only Commonwealth managed fishery that may interact with the Operational Area. This fishery extends from Cape Londonderry, eastward throughout the EEZ and Northern Territory waters, to approximately the Cape York peninsula. Highest intensity fishing efforts during the 2020-2022 seasons took place in the nearshore coastal NT waters (ABARES, 2023). The Operational Area falls within the low effort fishing intensity area (<0.1 days/km²), as indicated through the Commonwealth Fishery Status Reports (ABARES, 2023). The fishery is closed from 16 June to 31 July and from 1 December to 1 April each year.

The West Australian, Mackerel Managed Fishery is active within the 60 NM CAES reporting block overlapping the Operational Area, recording <3 active vessels across the 2019-2022 seasons (DPIRD, 2023). The fishery consists of three management sectors (Kimberley, Pilbara and Gascoyne/West Coast), which encompass the entire coastline of Western Australia from the Northern Territory border to Cape Leeuwin in the Southwest.

Three Northern Territory managed fisheries are active in the environment surrounding and including the Operational Area and may interact with activities. The Northern Territory Offshore Demersal Fishery overlaps with the Operational Area. The fishery is permitted 15 NM from the low water mark to the outer boundary of the Australian EEZ, excluding the area of the Timor Reef fishery. Analysis of five years of NT fishing effort data (2017-2021) shows one licence operating in environment surrounding the Operational Area. The Offshore Net and Line Fishery overlaps with the Operational Area and operates in all NT waters from the low water mark to the boundary of the Australian EEZ. Analysis of five years of NT fishing effort data (2017-2021) shows one licence within the vicinity of the Operational Area (NT DITT 2023). The Spanish Mackerel Fishery is allowed to fish from the high-water mark to the outer boundary of the Australian EEZ. One licence was active in the vicinity of the Operational Area between the 2017-2021 seasons.

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As defined in Section 3.3.1, all activities associated with the Blacktip drilling program will be contained within the existing 500 m PSZ. The WHP is marked on nautical charts surrounded by a 500m PSZ with fishing activities being excluded from this area. Given the existing presence of the WHP PSZ, the Blacktip drilling activities do not introduce any additional exclusion areas to fisheries. Therefore, interactions between fishing and tourism vessels and the Blacktip drilling activities are not anticipated.

Given the continued presence of the Blacktip offshore infrastructure over the last 14 years with no incidence of interaction with other marine users being recorded, and the vastness of the fishery zones relative to the area of exclusion (500m PSZ), the impact to commercial fishing is considered slight.

7.1.3.3 Traditional and Subsistence Fisheries

The coastal land adjacent to the Operational Area belongs to the First Nations people (refer Section 4.6.9) and access to the coast in this area is strictly limited. Along the north-western coastline of Australia, traditional and subsistence fishing is generally limited to shorelines, creeks and nearshore reefs.

Subsistence fishing continues to form an important part of First Nations culture and as a source of food. Wadeye (located 70km from the Operational Area) is the main community in the Thamarrurr Region and is populated by landowners who own land from Cape Scott in the north to the Fitzmaurice River in the south. Subsistence fishing occurs throughout this region using traditional methods, as it does across the NT. The most important species reflect those typically important across the territory and include mullet for bait, barramundi and catfish. Species of mussels and mudcrabs are also highly significant. Given fishing is generally limited to shorelines, creeks and nearshore reefs, the Blacktip drilling activities are not anticipated to cause any interference. Meetings have been held with Thamarrurr Rangers (about Blacktip operations in general rather than this EP development) which have previously confirmed most of the fishing occurs nearshore and there is little to no offshore subsistence fishing in the region. Therefore, impacts to traditional fisheries are not anticipated.


7.1.3.4 Tourism and Recreation

Fishing Tour Operators are permitted to operate across WA state waters and are required to report monthly logbook records of client fish catches. Generally, Fishing Tour Operators target areas of high scenic value and offshore coral reef areas. As these attributes are generally sparse in the offshore area of the JBG, the level of charter fishing and tourism is therefore low. FishCube data reports indicate less than 3 licences overlapping the Operational Area (DPIRD, 2023)

The WHP is marked on nautical charts surrounded by a 500m PSZ and fishing activities are excluded from this area; therefore, interaction between fishing and tourism vessels and the Blacktip drilling activities is not anticipated.

7.1.3.5 Defence

WA-33-L is located within the NAXA and restricted airspace R264G.

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To ensure Eni activities do not conflict with Defence training in the future, Eni will notify Defence a minimum of five weeks before the actual commencement of activities. Notification will be provided to offshore.petroleum@defence.gov.au.

7.1.4 Environmental Performance Outcomes and Control Measures

EPOs relating to this risk include:

- information is provided to relevant persons to manage impacts on their functions, interests, and activities (EPO-01)
- activities are managed in accordance with navigational and safety requirements (EPO-02)
- no unplanned interactions with other users (EPO-03).


Control measures (CMs) relating to this risk include:

- navigation equipment and procedures (lighting as required for safe work conditions and navigational purposes) (CM-01)
- consultation with relevant persons (CM-02)
- a 500m Petroleum Safety Zone (CM-03).


EPSs and MC relating to the above are presented in Section 9.

7.1.5 As Low as Reasonably Practicable Demonstration


Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Eliminating the use of vessels in the Operational Area	Vessel use is required to support the jack-up MODU operations and cannot be eliminated.	*
	Reducing or eliminating the 500m PSZ around the WHP and jack-up MODU	PSZ is mandated by the OPGGS Act and cannot be reduced or eliminated.	*

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Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
	Timing drilling to avoid NPF fishing season/ or where possible to avoid fish spawning season during warmer months (September-March)	<p>The drilling will occur at the WHP which has a 500m gazetted PSZ (which is also the Operational Area); commercial fishing activities are not permitted within the PSZ. Given the WHP has been operational since 2009, displacement impact from the drilling activity to the NPF commercial fishing is considered to be no greater than the displacement which already occurs due to the presence of the WHP. Timing drilling to avoid NPF fishing season therefore provides no benefit.</p> <p>During 2023 consultation, the DITT / NT Fisheries requested that where possible, drilling is undertaken during warmer months (September-March) to avoid fish spawning season. The timing of the Blacktip drilling activities is subject to vessel and MODU availability in the region as well as weather conditions; and given the nature of the work, it is not feasible to commit to limiting work to specific periods of the year. The potential impact to commercial fish species and fisheries from the drilling activity is assessed in relevant sections in Section 7 and 8; and is considered acceptable and reduced to ALARP.</p>	*
Substitute	N/A	N/A.	N/A
Engineering	Navigation equipment and procedures (lighting as required for safe work conditions and navigational purposes)	<p>Ensures the jack-up MODU and vessels are seen by other marine users.</p> <p>Reduces risk of environmental impact from vessel collisions due to ensuring safety requirements are fulfilled.</p> <p>Negligible costs of operating navigational equipment.</p> <p>A requirement under Marine Orders, requires vessels to have navigational equipment to avoid collisions.</p> <p><i>Note, a radar beacon unit is installed on the WHP which would appear on the display of the triggering radars, providing range, bearing and identification information. Would alert vessels of WHP position, reducing collision risk.</i></p>	✓ (CM-01)
Isolation	N/A	N/A.	N/A


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Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Administrative	Consultation with relevant persons (refer Section 5)	<p>Relevant persons consultation ensures marine users are aware of the drilling activities, reducing the likelihood of unplanned interactions. Provides marine users an opportunity to request practicable interface control measures.</p> <p>Enables identification of potential Sea Country protection or enhancement initiatives, and implementation where practicable.</p>	✓ (CM-02)
		<p>To ensure Eni activities do not conflict with Defence training in the future, Eni will notify Defence a minimum of five weeks before the actual commencement of activities. Notification will need to be provided to offshore.petroleum@defence.gov.au.</p> <p>Defence will also be made aware of any high-velocity exhaust gas plumes or burn-offs that could impact the safety of flights.</p> <p>Minor administrative costs in notifying Defence.</p> <p>Ensures Defence is aware of the activities, reducing likelihood of interactions.</p>	
	Establishment and enforcement of a 500m PSZ around the jack-up MODU	No additional costs. Other marine users may be temporarily excluded from areas. A 500m PSZ is already present around the WHP (drilling is from the WHP).	✓ (CM-03)

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7.1.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	<p>Physical presence of Blacktip drilling activities is managed in accordance with relevant legislative requirements, including compliance with international maritime conventions and Australian legislation, being:</p> <ul style="list-style-type: none"> • International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978 • International Convention for the Safety of Life at Sea 1974 • International Regulations for Preventing Collisions at Sea 1972 • <i>Navigation Act 2012</i>, including, as appropriate to vessel class: <ul style="list-style-type: none"> – Marine Order 21: Safety and emergency arrangements) – Marine Order 30: Prevention of Collisions) – Marine Order 71: Masters and Deck Officers • OPGGS Act Section 616 (2) Petroleum safety zones, which involve establishing and maintaining a PSZ around offshore structures or equipment. <p>Eni will not interfere with the rights of other marine users to a greater extent than is necessary for the reasonable exercise of right conferred by the titles granted, as per Section 280 of the OPGGS Act.</p> <p>Blacktip drilling activities are compliant with the EPBC approval conditions (EPBC 2003/1180).</p>
Policy Compliance	<p>The management of physical presence of the Blacktip drilling activities is aligned with Eni policies and standards. The residual risk is Low, which is acceptable.</p> <p>The EPOs, CMs and EPSs that will be implemented are consistent with Eni internal requirements.</p>
Social Acceptability	<p>NPF raised concern about the installation (including timing) of a third well during consultation in 2020 (under the Blacktip Operations EP) in particular and the disruption to, or displacement of, NPF commercial fishing activities. The Blacktip drilling activities will occur at the WHP which has a 500m gazetted PSZ; commercial fishing activities are not permitted within the PSZ. Given the WHP has been operational since 2009, displacement impact to the NPF commercial fishing is considered to be no greater than the displacement which already occurs due to the presence of the WHP.</p> <p>The DITT / NT Fisheries raised concerns about the timing of the activity; requesting where possible drilling avoid the warmer months during fish spawning season (September-March). The timing of the Blacktip drilling activities is subject to vessel and MODU availability in the region as well as weather conditions; and given the nature of the work, it is not feasible to commit to limiting work to specific periods of the year. This additional control was assessed as part of the ALARP evaluation, and not adopted.</p> <p>Eni will notify Defence a minimum of five weeks before the actual commencement of activities.</p> <p>Eni will notify the DNP of any Blacktip vessel activities within the Joseph Bonaparte Gulf AMP.</p> <p>An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>

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Demonstration of acceptability	
Area Sensitivity/ Biodiversity	<p>The Operational Area is not located in or near heavily fished waters or shipping fairways.</p> <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. Eni has considered the values objectives of the North Marine Parks Network Management Plan (DNP, 2018). The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9).</p> <p>Physical presence of infrastructure has not been identified as a threat in any recovery plans or conservation advice for threatened and migratory species.</p>
ESD Principles	<p>Blacktip drilling activities are consistent with the principles of ESD because:</p> <ul style="list-style-type: none"> the nature and scale of potential impacts from physical presence is not inconsistent with the integration principle the precautionary principle was applied and the analysis of available fishing data and usage information was supplemented with consultation where knowledge gaps were identified.
ALARP	The residual risk has been demonstrated to be ALARP.

Given the low volume of other marine users over the Operational Area, potential impacts are slight. The residual risk is considered low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Potential impact associated with interactions with other marine users is considered acceptable and ALARP.

7.2 Atmospheric Emissions (Risk ID P2)


7.2.1 Summary of Environmental Risk Assessment

Hazard	Atmospheric Emissions – power generation and flaring		
	Likelihood	Severity	Risk
Inherent Risk	E	1	L
Residual Risk	E	1	L

7.2.2 Description of Hazard

Atmospheric emissions will be released by the jack-up MODU and vessels as a result of combustion for power generation. Atmospheric emissions will also be released during clean-up of new Blacktip development well (Section 3.8.6) and clean-up of contingent workover well (Section 3.10.6) via the well test package on the jack-up MODU.

The Australian Commonwealth Clean Energy Regulator defines 'Scope 1' greenhouse gas emissions as 'emissions released to the atmosphere as a direct result of an activity, or series of activities at a facility level'. Scope 1 emissions are sometimes referred to as direct emissions. Atmospheric emissions generated during the Blacktip drilling activities constitute 'Scope 1' or 'direct' emission sources.

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Continuous power generation is the main source of engine exhaust emissions on the jack-up MODU and vessels. Other engine exhausts result from the use of cranes and helicopters. The jack-up MODU and vessel generators are typically run on MDO. The typical MDO fuel use on a MODU and a support vessel is estimated at 15,000 litres per day and 10,000 litres per day respectively.

Well-cleanup of new Blacktip development well occurs via the jack-up MODU well test package (refer Section 3.8.6). Approximate well-cleanup combusted masses are shown in Table 3.8. Well-cleanup of sidetrack well occurs via the jack-up MODU well test package (refer Section 3.10.6). Approximate well-cleanup combusted masses are shown in Table 3.10. Flaring will occur for a period of up to 96 hours (per well). Incomplete combustion under certain scenarios may also generate dark smoke.

Products of hydrocarbon combustion emitted to the atmosphere from the Blacktip drilling activities include emissions of GHG, such as carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O), along with non-GHG such as sulphur oxides (SO_x) and nitrogen oxides (NO_x). There may also be emissions of particulate matter, and hydrocarbons, including benzene, ethyl benzene, toluene and xylene (BTEX). Table 7.1 presents the calculated direct GHG emissions during the Blacktip drilling activities. The emission estimations use methods defined in the National Greenhouse and Energy Reporting (Measurement) Determination 2008.


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Table 7.1: Calculated greenhouse gas emissions as a result of the Blacktip drilling activities

Source	Approximate volume (metric tonnes)	Approximate volume (cubic metres)	Approximate fuel usage (kilolitres)	GHG emissions			Total Scope 1 emissions (t CO ₂ e)
				CO ₂	CH ₄	N ₂ O	
Diesel oil (use MODU ¹)	-	-	2,850	7,690	11	44	7,745
Diesel oil (use support vessels ²)	-	-	5,700	15,379	22	88	15,489
Gasoline used as a fuel in an aircraft (use helicopters ³)	-	-	540	1,198	1	11	1,210
Unprocessed natural gas – flared ⁴	-	10,650,000	-	21,513	42	13	21,568
Crude oil ⁵ (including condensates) – flared ³	292	-	-	921	1	3	925
Gas venting during rig approach, heavy lifting and intervention operation – cold venting ⁶	-	35,700	-	-	31	-	31
Total	292	10,685,700	9,090	46,701	108	159	46,968

Note 1: Based on a MODU for the duration of activities (190 days, which drilling, intervention and workover and contingency), using 15,000 L diesel per day


Note 2: Based on three supporting for the duration of activities (190 days, which drilling, intervention and workover and contingency), using 10,000 litres of diesel per day.

Note 3: Based on helicopter visiting the MODU 5 days per week for the duration of activities (190 days (27 weeks), which includes drilling, intervention, workover and contingency), using approx. 4000 litres of heli-fuel per round trip. Total volume 540,000 litres used.

Note 4: Based on flaring for 96 hours per well (2 wells - new well and workover) (very minor volumes maybe flared during intervention and are considered within this value).

Note 5: Used as a worst-case analogue in the Australian Clean Energy Regulator NGER Emissions and Energy Threshold Calculator for combined gas condensate and base oil (2 wells – new well and workover).

Note 6: Assumed 12 depressurising cycles between production wing valve and sub-sea isolation valve with 2600 cubic metres of cold venting each cycle and during drilling and interventions activities and 20 Lubricator bleeds during intervention with 225 cubic metres each cycle. Occurs once as part of the campaign (e.g., once for a drilling and intervention activity).

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Scope 1 emissions in Table 7.1 have been calculated based on forecast fuel usage using the 2022-2023 Australian Clean Energy Regulator NGER Emissions and Energy Threshold Calculator emission factors. The total estimated direct GHG emissions for this Blacktip drilling activities is approximately 46,968t CO₂-e. The total annual Australian GHG emissions for the year to March 2022 is estimated by the Commonwealth Government to be 489Mt CO₂-e (DCCEEW, 2022). The estimated Blacktip drilling activities direct emissions are estimated to be less than 0.001% of the total annual Australian GHG emissions.

Eni has considered the EPBC Policy Statement 'Indirect consequences' of an action: Section 527E of the EPBC Act when evaluating potential indirect consequences from the Blacktip drilling activities.

The Australian Clean Energy Regulator defines 'Scope 2' and 'Scope 3' GHG emissions as:


- Scope 2: 'greenhouse gas emissions are the emissions released to the atmosphere from the indirect consumption of an energy commodity'. Scope 2 emissions may be referred to as indirect emissions.
- Scope 3: 'indirect greenhouse gas emissions other than Scope 2 emissions that are generated in the wider economy. They occur as a consequence of the activities of a facility, but from sources not owned or controlled by that facility's business'.

Scope 2 and 3 emissions are not considered within the context of this EP, given the Blacktip drilling activities do not produce reservoir hydrocarbons itself and are a sub-component of the broader operation of the Blacktip facilities. Once drilled, P5 will be shut in. Scope 2 and 3 emissions from production are covered under the EP (000036_DV_PR.HSE.0677.000).

Production of reservoir hydrocarbons from Blacktip operations may result in Scope 1, Scope 2 and Scope 3 GHG emissions. These are considered emissions from production and consumption of Blacktip field reservoir hydrocarbons and are considered to contribute to the overall global GHG emissions.

Eni has historically been committed to reducing its direct GHG emissions and was among the first in its industry to set a series of targets in 2015 aimed at improving the GHG emissions performance of the assets it operates. In recognition of the global need to reduce GHG emissions, Eni is committed to reducing CO₂ emissions (Scope 1, 2 and 3) to reach its 2050 carbon neutrality target, towards Net Zero. Eni has been reporting Scope 1, 2 and 3 emissions as a business since 2017 (Eni, 2022).

Eni shall report Scope 2 and 3 emissions in regard to the EPBC Policy Statement 'Indirect consequences' of an action when undertaking the five-yearly revision of the Blacktip Operations EP (000036_DV_PR.HSE.0677.000), as required under OPGGS(E) Regulation 41. The Blacktip Operations EP (000036_DV_PR.HSE.0677.000) is considered the most appropriate EP to report these GHG emissions.

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7.2.3 Potential Environmental Impact

Hydrocarbon combustion may result in a temporary, localised reduction of air quality in the environment immediately surrounding the emission source.

The quantities of gaseous emissions are relatively small and will quickly dissipate into the surrounding atmosphere. Air emissions will be similar to other vessels operating in the region for both petroleum and non-petroleum activities.

Local impacts typically associated with the atmospheric emissions are mitigated by the dispersive nature of the offshore environment. Any potential local elevated concentrations of emissions will be short-lived and unlikely to be detectable, except in the near vicinity of the release (i.e., within a 500m radius). Combustion of fuels and incineration (including flaring) at the field will not impact on air quality in coastal communities, the nearest being Wadeye, 100km from the Operational Area.

Potential impacts are expected to be short-term, localised air quality changes, limited to the air shed local to the Operational Area. Air emission impacts are not expected to have direct or cumulative impacts on sensitive environmental receptors, or above National Environmental Protection (Ambient Air Quality) measures. Given the low sensitivity of the receiving environment – open offshore location away from coastal communities – the impact on air quality is anticipated to be slight.

7.2.4 Environmental Performance Outcomes and Control Measures

EPOs relating to this risk include:


- no significant changes to air quality (EPO-04)
- maximise efficiency of combustion during flaring (EPO-05).

CMs relating to this risk include:

- air pollution prevention certification (CM-04)
- vessel fuel quality (CM-05)
- monitoring of fuel usage and flaring volumes and reporting to the Australian Climate Change Regulator via NGER (CM-06)
- use of a well test package with an efficient flare design to minimise potential impacts (CM-07).


EPSs and MC relating to the above are presented in Section 9.

Monitoring and reporting of emissions are presented in Section 10.8.

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7.2.5 As Low as Reasonably Practicable Demonstration


Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Eliminate the use of vessels in the Operational Area	Vessels are required to perform equipment removal activities and vessel use cannot be eliminated.	*
	No incineration of waste on vessels	Eliminates the potential for emissions due to waste incineration impacting air quality. However, increase IN health risk from storage of wastes. Increase in risk due to transfers (increased fuel usage, potential increase in collision risk, disposal on land).	*
	Eliminate flaring during well-cleanup	Eliminating flaring would limit the atmospheric emissions volume. Flaring during well-cleanup is a common and necessary part of drilling activities. It is required for well-cleanup and cannot be eliminated.	*
Substitute	Use green energy sources on the jack-up MODU and vessels	Alternatives such as renewable energy generators (wind and sun) are not viable options as they are weather-dependent and do not supply continuous base load power. The vessels and MODU will use MDO, which is low in sulphur dioxide, in accordance with Marine Order 97.	*
	Vessel fuel quality (in compliance Marine Order 97)	Reduces emissions through use of low-sulphur fuel in accordance with Marine Order 97. Minimal cost as vessels are required to comply with Marine Orders.	✓ (CM-05)
Engineering	N/A	N/A.	N/A
Isolation	N/A	N/A.	N/A
Administrative	Vessel air pollution prevention certificate (in compliance Marine Order 97)	Reduces the probability of potential impacts to air quality. Minimal cost, as vessels are required to comply with Marine Orders.	✓ (CM-04)
	Monitor fuel usage and flaring volumes and reporting to the Australian Climate Change Regulator via NGER	Track and monitor atmospheric emission from the activity, consistent with the NGER Act and report these emissions to the Climate Change Regulator on an annual basis.	✓ (CM-06)
	Use a well test package with an efficient flare design to minimise potential impacts	Administrative control can reduce atmospheric emissions with minimal cost involved.	✓ (CM-07)

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7.2.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	<p>Atmospheric emissions will be managed in accordance with relevant legislative requirements, including compliance with international maritime conventions and Australian legislation, specifically:</p> <ul style="list-style-type: none"> MARPOL 73/78: Annex VI: Regulations for the prevention of air pollution from ships Marine Order 97: Marine Pollution Prevention – Air Pollution relevant requirements of the National Pollutant Inventory National Environmental Protection Measure. <p>Blacktip drilling activities are compliant with the EPBC approval conditions (EPBC 2003/1180).</p>
Policy Compliance	<p>The management of atmospheric emissions from the Blacktip drilling activities are aligned with Eni policies and standards. The residual risk is Low, which is acceptable.</p> <p>The EPO, CM and EPS that will be implemented are consistent with Eni internal requirements.</p>
Social Acceptability	<p>To date, no relevant person concerns have been raised regarding atmospheric emission impacts (refer Section 5).</p> <p>An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>
Area Sensitivity/ Biodiversity	<p>Offshore location means winds will disperse and dilute emissions rapidly.</p> <p>No human settlements nearby.</p> <p>Atmospheric emissions have not been identified as a threat in any recovery plans or conservation advice for Threatened and Migratory species.</p> <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9).</p>
ESD Principles	<p>The activity is consistent with the principles of ESD because:</p> <ul style="list-style-type: none"> the impacts associated with atmospheric emissions do not result in 'threats of serious or irreversible harm' as detailed within the EPBC Act and biodiversity and ecological integrity will be maintained there are no identified health, diversity or productivity impacts that may affect the biodiversity or ecological function for future generations.
ALARP	The residual risk has been demonstrated to be ALARP.

Potential impacts associated with atmospheric emissions are slight. The residual risk is considered low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Potential impact associated with atmospheric emissions is considered acceptable and ALARP.

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7.3 Routine Helicopter, Vessel and Mobile Offshore Drilling Unit Noise (Risk ID P3)

7.3.1 Summary of Environmental Risk


Hazard	Routine Helicopter, Vessel and MODU Noise		
	Likelihood	Severity	Risk
Inherent Risk	A	1	L
Residual Risk	A	1	L

7.3.2 Description of Hazard

During the Blacktip drilling activities, noise emissions will be generated through the operation of support vessels, helicopters and jack-up MODU operation/drilling. A maximum of three vessels will be active in the Operational Area at any one time. Noise from these sources can be broadly defined as non-impulsive.

How underwater noise is received by the environment depends on a number of factors. These include the frequency in which the receptor receives noise, how the noise moves through the water column and how loud the noise is. The movement of noise through the water column is influenced by factors such as the bathymetry and composition of the seabed, the temperature and salinity of the water, the depth of the water and the location of the noise source.

Note, the Blacktip WHP is operated under the Blacktip Operations EP (000036_DV_PR.HSE.0677.000). Key sources of sound on the WHP originate from generators and equipment above the water level (i.e., no wellheads on the seafloor). No underwater noise sources are present. A noise assessment relevant to the Blacktip WHP is included in the Blacktip Operations EP (000036_DV_PR.HSE.0677.000).

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7.3.2.1 Helicopters

Crew changes will be required during the Blacktip drilling activities and will be undertaken using helicopters.

The rotating blades of helicopters produce tones with fundamental frequencies proportional to the rate and number of blades. Noise levels for typical helicopters used in offshore operations (Eurocopter Super Puma AS332) at 150m separation distance have been measured at up to a maximum of 90.6dB (BMT Asia Pacific, 2005). Unconstrained point source noise in the atmosphere (such as helicopter noise) spreads spherically, with noise received at the sea surface decreasing with increasing distance from the aircraft (Nowacek *et al.*, 2007). Based on spherical geometric spreading (and not considering transmission loss from atmospheric absorption), the sound level is expected to decrease by 6dB for every doubling of the distance from the source (Truax, 1978). Using this model, a maximum sound level of approximately 90dB at 150m would be reduced to approximately 76dB directly below a helicopter travelling at an altitude of 500m. Noise from the flyover of a Bell 214ST helicopter has been recorded underwater (Richardson *et al.*, 1995); the maximum recorded sound level for the dominant 22 Hz tone was 109dB re 1 μ Pa (sound pressure level [SPL]) when the helicopter was 152m from the surface and the hydrophone 3 and 18m under the surface, and only detectable underwater for 11 to 38 seconds (based on transit speed), depending on water depth.

7.3.2.2 Vessels;ossa


For vessels, the noisiest anticipated activity is when the vessel uses dynamic positioning (DP) to maintain a position and heading by using its own propellers and thrusters. The typical sound levels generated by vessels are broadband and usually increase with increasing vessel size, with smaller vessels (less than 50 m) having source levels 160 to 175dB (re 1 μ Pa) (Richardson *et al.*, 1995 in Genesis Oil and Gas Consultants, 2011)). Tugboats, crew boats, supply ships and many research vessels in the 50 to 100m size class typically have broadband source levels in the 165 to 180dB re 1 μ Pa SPL range (Gotz *et al.*, 2009). In comparison, underwater sound levels generated by large ships can produce levels exceeding 190dB re 1 μ Pa SPL (Gotz *et al.*, 2009).

McCauley (1998) measured underwater broadband noise equivalent to approximately 182dB re 1 μ Pa SPL @ 1m with a frequency range of 20 Hz to 10 kHz from a support vessel using dynamic positioning in the Timor Sea; it is expected similar noise levels will be generated by the vessels used for Blacktip drilling activities. The thruster noise dropped below 120dB re 1 μ Pa within 3 to 4km (McCauley, 1998).

7.3.2.3 Mobile Offshore Drilling Unit and Drilling

MODUs working but not drilling have been measured to produce noise between 0.005 and 1.2 kHz frequencies with a source level of 59dB re 1 μ Pa @ 1m (Simmonds *et al.*, 2004), noting the key source of sound originates from generators and equipment above the water level on the MODU.

Jack-up MODUs do not require the use of thrusters to maintain position. Non-impulsive sound produced subsurface by the jack-up MODU drilling activity can be categorised as:

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- Rig working but not drilling. During this period, the primary sources are from mechanical plant, discharged fluids, pumping systems and miscellaneous banging of gear on the rig. Typically, this is low-level, low-intensity continuous sound.
- Rig actively drilling. Typically, this is at 16 to 200 kHz frequencies with a source level range of 167 to 171dB re 1µPa @ 1m for drilling using a jack-up MODU (MMO, 2015). McCauley (1998) recorded source noise levels MODUs actively drilling from 149-154 dB re 1 µPa at 1 m (with support vessel on anchor). There was a significant variation in the broadband noise during non-drilling periods, attributed to the operation of specific types of machinery. Austin et al. (2018) recorded broadband source levels from MODU operations (MODU excluding thruster use) to be 170.7 dB re 1 µPa. Studies undertaken in the Arctic on different MODU types indicate that noise levels from drilling dropped to 117 dB re 1 µPa within 1 km of the MODU (Austin et al., 2018).

7.3.2.4 Noise modelling and attenuation calculations

To understand the noise footprints likely to be generated by the Blacktip drilling activities this impact assessment utilises previously completed JASCO noise modelling for a similar Eni project in a water depth of approx. 100m. Whilst the water depth is slightly deeper than Blacktip (51m), the modelling is conservative and considered applicable in informing the noise impact assessment, given the nature and scale of the activities.

The underwater noise sources modelled by JASCO (Connell et al., 2023) relevant to Blacktip drilling are:

- non-impulsive noise: MODU while Drilling
- non-impulsive noise: MODU with Resupply Vessel

The modelling study predicted the distances at which underwater sound levels from the activities reached noise effect thresholds and criteria for marine fauna (detailed in Section 7.3.3). Due to the variety of species considered, there are several different thresholds for evaluating effects, including mortality, injury, temporary reduction in hearing sensitivity, and behavioural disturbance.

Characteristics of noise emissions sources used in the modelling are presented in Table 7.2.

Table 7.2: Characteristics of noise emissions sources used in the modelling

Source	Source Level	Frequency
MODU Drilling activities	120 dB re 1 µPa m (SPL)	Less than 2 kHz
Vessels operating on DP	182 dB re 1 µPa m @ 1 m	20 to 10 kHz

Modelling results

The worst-case output from the modelling results based on the maximum-over-depth modelled received noise levels are shown in Table 7.3. Impact thresholds are based on those detailed in Section 7.3.3.



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Table 7.3: Noise modelling result summary: maximum over depth distances to frequency weighted 24 hour sound exposure level based on noise effect criteria (Connell et al., 2023)

Receptor	Impact threshold	Distance From Source Where Impact May Occur (in kilometres, R _{max})	
		Scenario 1	Scenario 2
		MODU while Drilling	MODU with Resupply Vessel
Marine Mammals			
Marine mammal behaviour (NOAA, 2019) (SPL)		2.68	7.45
Low-frequency cetaceans	PTS ¹ (SEL _{24h})	-	0.05
	TTS ¹ (SEL _{24h})	0.33	0.64
High-frequency cetaceans	PTS ¹ (SEL _{24h})	-	0.04
	TTS ¹ (SEL _{24h})	0.10	0.14
Very-high-frequency cetaceans	PTS ¹ (SEL _{24h})	0.17	0.20
	TTS ¹ (SEL _{24h})	2.86	2.88
Sirenians	PTS ¹ (SEL _{24h})	0.01	0.02
	TTS ¹ (SEL _{24h})	0.01	0.07
Marine Reptiles			
Turtle behaviour McCauley et al. (2000) (SPL) (Popper et al., 2014)		NA	NA
Sea turtles	PTS ¹ (SEL _{24h})	-	-
	TTS ¹ (SEL _{24h})	-	0.05
Fish²			
Fish I	Mortality and potential mortal injury (SEL _{24h})	NA	NA
	Recoverable injury (SEL _{24h})	NA	NA
	TTS (SEL _{24h})	NA	NA
Fish II	Mortality and potential mortal injury (SEL _{24h})	NA	NA
	Recoverable injury (SEL _{24h})	NA	NA
	TTS (SEL _{24h})	NA	NA
Fish III	Mortality and potential mortal injury (SEL _{24h})	NA	NA
	Recoverable injury (SEL _{24h})	1	0.2
	TTS (SEL _{24h})	1	0.3
Fish eggs and fish larvae	Mortality and potential mortal injury (SEL _{24h})	NA	NA
	Recoverable injury (SEL _{24h})	NA	NA
	TTS (SEL _{24h})	NA	NA

Note 1: Dual metric acoustic thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating PTS onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds should also be considered.

Note 2: Fish I – No swim bladder; Fish II – Swim bladder not involved with hearing; Fish III – Swim bladder involved with hearing.

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7.3.3 Potential Environmental Impact

Potential environmental impacts from noise from helicopters, MODU/drilling and vessels include:

- behavioural change in marine fauna (localised avoidance/attraction)
- temporary hearing impairment/threshold shift to marine fauna
- inducing stress in marine fauna
- disruption to marine fauna underwater acoustic cues
- secondary ecological effects – alteration of predator prey relationship.

For non-impulsive noise, only weighted sound exposure level metrics are provided in the literature (Table 7.4). Estimating sound exposure level provides a metric that integrates cumulative exposures. For permanent threshold shift (PTS) and temporary threshold shift (TTS) to non-impulsive noise, 24 hours has been provided as a suitable timeframe to estimate sound exposure level (Southall *et al.*, 2007). Since TTS and PTS thresholds are not provided in SPL, it is not possible to directly compare these thresholds with the predicted SPL @ 1m for the vessels and MODU, as described in Section 7.3.2.

7.3.3.1 Marine Mammals


Marine mammals are generally sensitive to noise in the marine environment due to their use of sound for communication, prey capture, predator avoidance and navigation. Some also have large gas-filled organs that make them vulnerable to sound pressure.

Marine mammals that may occur within the vicinity of the Operational Area include low frequency (such as baleen whales), high frequency (odontocetes such as orca and sperm whale), very high frequency (such as dolphins) cetaceans and sirenians (dugongs) (refer Section 4.4). Table 7.4 presented a summary of cetacean behavioural and impact thresholds, which have been used in the JASCO modelling (Connell *et al.*, 2023).

Table 7.4: Continuous noise: summary of cetacean impact thresholds

Hearing group	PTS onset thresholds (received level)	TTS onset thresholds (received level)	Behavioural response
	<i>Non-impulsive</i>	<i>Non-impulsive</i>	
Low-frequency cetaceans	L_E , LF, 24h: 199dB	L_E , LF, 24h: 179dB	L_p 120dB
High-frequency cetaceans	L_E , HF, 24h: 198dB	L_E , HF, 24h: 178dB	L_p 120dB
Very high-frequency cetaceans	L_E , VHF, 24h: 173dB	L_E , VHF, 24h: 153dB	L_p 120dB

Source: NMFS (2018); NOAA (2019); Southall *et al.* (2019).

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As presented in Table 7.3, impact from drilling activities alone may exceed behavioural thresholds for marine mammals out to a distance of 2.68km. Cumulative noise (drilling and support vessel) may exceed behavioural thresholds for marine mammals out to a distance of 7.45km. PTS is only predicted to occur very close to the noise source. TTS may occur out to 2.88km from cumulative noise (drilling and support vessel). Whilst these thresholds may be exceeded during the Blacktip drilling activities, impacts are not considered significant given marine mammals' mobility and ability to avoid the sound source. In addition the Operational Area and noise footprint are not within a BIA or aggregation are for species sensitive to noise (e.g. pygmy blue whales), reducing the risk of impacts.

There is potential for auditory masking of vocalisations of marine mammals due to the overlap in frequency range between signals and vocalisations; however, impacts are considered temporary and localised because marine mammals are moving and unlikely to stay in the same area for any length of time.


The SEL_{24h} is a cumulative metric that reflects the dosimetric impact of noise levels within 24 hours, based on the assumption an animal is consistently exposed to such noise levels at a fixed position. More realistically, marine mammals would not stay in the same location for 24 hours. Therefore, a reported distance for SEL based criteria does not mean marine fauna travelling within this radius of the source will be injured, but rather an animal could be exposed to the sound level associated with impairment if it remained in that location for 24 hours.

The Operational Area and noise footprint is not within an area of high shipping density (Section 4.6.4) and should marine mammal avoidance behaviour occur, it is anticipated species would be able to move to an area outside the behavioural or impact distances detailed in Table 7.3.

Eni has considered information contained in relevant recovery plans and approved conservation advice for marine fauna that identify noise emissions a potential threat (as listed in Table 2.4). This includes the objectives and actions within the:

- Conservation Management Plan for the Blue Whale 2015–2025 (Commonwealth of Australia, 2015a)
- Approved Conservation Advice for *Balaenoptera borealis* (Sei Whale)
- Approved Conservation Advice for *Balaenoptera physalus* (Fin Whale)
- Approved Conservation Advice for *Megaptera novaeangliae* (Humpback Whale).

The Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice. Considering there are no regionally significant feeding, breeding or aggregation areas for marine mammals in the Operational Area, impacts are likely to be limited to individuals only. Any impact is anticipated to be slight and will not result in impacts at a population level.

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7.3.3.2 Marine Turtles

The Operational Area overlaps with the BIA for green turtles (foraging) and olive ridley turtles (foraging) and a BIA for flatback turtles (internesting) is 8km from the Operational Area (Table 4.5). The nearest known marine turtle nesting sites (flatback) are located at north side of Cape Domett and at Lacrosse Island and Pelican Island in the Cambridge Gulf (75km south of the Operational Area). Low levels of flatback turtle activity are also reported at Yelcherr Beach (Woodside, 2004). However, marine turtle species are not likely to be resident or occur in the Operational Area in significant numbers. Studies define suitable internesting habitat as areas of water depths less than 16m, which are typically within 5 to 10km of coastlines (Whittock *et al.*, 2016). Water depths in the Operational Area and the area of noise propagation (approximately 40 to 50m depth) suggest they are unlikely to comprise important habitat for the turtles during any life history phase.

Thresholds for non-impulsive noise emissions (e.g., those from vessels) have not been identified for marine turtles. Numerical thresholds have been developed for impacts of impulsive noise sources to marine turtles (e.g., Finneran *et al.*, 2017) (as defined in Section 7.4). Popper *et al.* (2014) has defined a more qualitative means, which is been applied to both impulsive and non-impulsive noise. Popper *et al.* (2014) identified mortality or permanent injury as being low risk to marine turtles, and TTS is moderate close to the source only. As presented in Table 7.3, TTS may occur near the sound source (within 0.05km, cumulative noise only – drilling and vessel use).

Behavioural and TSS impacts to marine turtles are expected to be temporary, close to the source. Any impact is anticipated to be slight and will not result in impacts at a population level.

7.3.3.3 Protected Areas

Given the relatively close distance of the Joseph Bonaparte Gulf AMP to the Operational Area (50km east, refer Figure 4.14), an assessment of the consistency of the noise impacts against the values of the AMP has been made in Table 4.9. The values and sensitivities of the AMP are submerged (such as KEFs) or are described above (turtles). Routine helicopter, vessel and MODU noise is not expected to cause an impact to other socioeconomic receptors.

Appropriate controls have been evaluated and adopted to manage potential impacts and risks to the values and sensitivities Joseph Bonaparte Gulf AMP to ALARP and acceptable levels.

7.3.4 Environmental Performance Outcomes and Control Measures


EPOs relating to this risk include:

- no injury or mortality to EPBC Act listed fauna during operational activities (EPO-06).

CMs relating to this risk include:


- regulations and measures for interacting with marine fauna (CM-08).

EPSs and MC relating to the above are presented in Section 9.

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7.3.5 As Low as Reasonably Practicable Demonstration

Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Eliminating the helicopters, vessels and jack-up MODU use	The noise associated with the use of helicopters, vessels and jack-up MODU cannot be eliminated. Elimination of helicopters, vessels and MODU would mean the activities cannot be completed.	*
Substitute	Substitute vessels	The vessels will be contracted to meet the specifications of the scheduled work and cannot be substituted. They are required to support the MODU operations.	N/A
Engineering	N/A	N/A.	N/A
Isolation	N/A	N/A.	N/A
Administrative	Regulations and measures for interacting with marine fauna (e.g., EPBC Regulations 8 (Part 8))	Minor cost in complying. Reduces risk of physical and behavioural impacts to marine fauna. EPBC Regulations include restrictions such as vessel speed and direction when in proximity to marine fauna and are based on legislated requirements.	✓ (CM-08)
	Scheduling activity outside of sensitive period for marine fauna	The timing of the Blacktip drilling activities will be subject to vessel and MODU availability and weather conditions. Given the low risk to marine fauna in the region, rescheduling the activity will not result in significant environmental benefit.	*
	Dedicated marine fauna observer on vessels to spot marine fauna	May improve ability to spot and identify marine fauna at risk of impact from noise. However, the high cost of contracting marine fauna observers is grossly disproportionate to the low risk (refer to Section 7.3.2.1) of vessel and MODU noise sources on marine fauna.	*

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7.3.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws, and Standards	<p>Noise from Blacktip drilling activities is managed in accordance with relevant legislative requirements, including:</p> <ul style="list-style-type: none"> • Vessels will comply with EPBC Regulations 2000 – Part 8 Division 8.1 (Interacting with cetaceans). • Helicopters will comply with EPBC Regulations 2000 – Part 8 Division 8.3 (Regulation 8.07). <p>Blacktip drilling activities are compliant with the EPBC approval conditions (EPBC 2003/1180).</p>
Policy Compliance	<p>The management of physical presence of the Blacktip drilling activities are aligned with Eni policies and standards. The residual risk is Low, which is acceptable.</p> <p>The EPOs, CMs and EPSs that will be implemented are consistent with Eni internal requirements.</p>
Social Acceptability	<p>To date, no relevant person concerns have been raised regarding noise impacts (refer Section 5).</p> <p>An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>
Area Sensitivity/ Biodiversity	<p>The Operational Area does not contain any BIA for cetacean species. The Operational Area overlaps the foraging BIA for green turtles and olive ridley turtles.</p> <p>Eni has considered information contained in relevant recovery plans and approved conservation advice for cetaceans that identify noise emissions as a threat (as listed in Table 2.4). This includes:</p> <ul style="list-style-type: none"> • Conservation Management Plan for the Blue Whale 2015–2025 (Commonwealth of Australia, 2015a) • Approved Conservation Advice for <i>Balaenoptera borealis</i> (Sei Whale) • Approved Conservation Advice for <i>Balaenoptera physalus</i> (Fin Whale) • Approved Conservation Advice for <i>Megaptera novaeangliae</i> (Humpback Whale). <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9).</p>
ESD Principles	<p>The activity is consistent with the principles of ESD because:</p> <ul style="list-style-type: none"> • the impacts associated with noise emissions do not result in 'threats of serious or irreversible harm' as detailed within the EPBC Act and biodiversity and ecological integrity will be maintained • conservative assumptions have been applied to the impact assessment • there are no identified health, diversity or productivity impacts that may affect the biodiversity or ecological function for future generations.
ALARP	The residual risk has been demonstrated to be ALARP.

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Given the duration of the Blacktip drilling activities (refer Table 3.1) and sensitivity of marine fauna to the vessels and jack-up MODU noise emissions, potential impacts are slight. Controls have been evaluated above and adopted in accordance with the ALARP criteria (Section 6.3). The residual risk is considered low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Potential impacts are therefore acceptable and ALARP.

7.4 Underwater Survey Equipment Noise (Risk ID P4)

7.4.1 Summary of Environmental Risk Assessment

Hazard	Underwater Survey Equipment Noise		
	Likelihood	Severity	Risk
Inherent Risk	B	2	L
Residual Risk	A	2	L

7.4.2 Description of Hazard

Geophysical survey instrumentation (boomer, MBES and SSS) is designed to characterise the seabed topography, bathymetry, potential geohazards, and other seafloor features prior to jack-up MODU placement at the WHP. The use of geophysical survey instrumentation is limited to any survey requirements prior to drilling the development well.


The geophysical survey will use a range of sources (Table 7.5). The noise from this equipment is categorised as impulsive noise, which can be defined as a series of pulsed sound events that are brief, broadband, atonal and transient.

Table 7.5: Estimated frequency and sound ranges for geophysical survey equipment

Geophysical technique	Estimated source intensity (peak dB re 1µPa @ 1 m)	Estimated source level (rms dB re 1µPa @ 1m)	Estimated sound exposure level (dB re 1µPa2s)	Frequency range (kHz)
MBES	210 to 245	221	188	150 to 700
SSS	200 to 235	234	200	75 to 500
Sub-bottom profiler – chirp or pinger	170 to 230	210	193	2 to 23
Boomer	205 to 225	205.9	175.6	5 to 500

Source: Jimenez-Arranz et al., 2017

JASCO (2013) conducted noise modelling for low-energy survey instruments off the coast of California. MBES, SSS, sub-bottom profiler and boomer equipment was modelled in a sandy bottom environment and at a water depth of 64m. Given the similarities in equipment type, seafloor habitat and water depth, the modelling is considered comparable for the nature and scale of the low-energy survey equipment used during the Blacktip drilling activities.

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The modelling reported distances to specific threshold levels for different types of marine mammals. Where applicable, m-weighted Rmax (the distance to the farthest occurrence of the threshold level) estimates were used. A behavioural threshold of 160dB re 1µPa (rms SPL) was used, based on US NMFS (2018) acoustic threshold for behavioural effects in marine mammals. The 160dB re 1µPa threshold was reached at the following distances (Rmax) during the modelling:

- MBES – 290m
- SSS – 682m
- Boomer – 50m.

7.4.3 Potential Environmental Impact

Elevated underwater noise can affect marine fauna including cetaceans, fish, turtles, sharks and rays in three main ways (Richardson *et al.*, 1995):

1. By causing direct physical effects on hearing or other organs, including:
 - mortality/potential mortal injury resulting from exposure to noise (not considered credible given the noise sources associated the geophysical surveys)
 - Permanent Threshold Shift – permanent reduction in the ability to perceive sound after being exposed to noise
 - Temporary Threshold Shift – temporary reduction in the ability to perceive sound after being exposed to noise, with hearing returning to normal.
2. By masking or interfering with other biologically important sounds, including vocal communication, echolocation, signals, and sounds produced by predators or prey.
3. Through disturbance leading to behavioural changes or displacement from important areas.

Criteria for impulsive noise exposure for impact/behavioural threshold to marine mammal, turtles and fish are presented in the tables below. JASCO (2013) modelling shows that SSS has the furthest Rmax at 160dB re 1µPa (SPL) (threshold for marine mammals behavioural impact) and would be reached at 682m from source; any impacts would likely be restricted to within that distance from survey equipment noise.

Table 7.6: Criteria for impulsive noise exposure acoustic effects on marine mammals

Potential marine fauna receptor	PTS onset thresholds		TTS onset thresholds		Behaviour (SPL, dB re 1µPa)
	Weighted SEL _{24h} (dB re 1 µPa ² -s)	PK (dB re 1µPa)	Weighted SEL _{24h} (dB re 1µPa ² -s)	PK (dB re 1µPa)	
High-frequency (HF) cetaceans	185	230	170	224	160
Low-frequency (LF) cetaceans	183	219	168	213	


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Table 7.7: Criteria for impulsive noise exposure for turtles

Potential marine fauna receptor	Masking	Behaviour	TTS	Recoverable injury	Mortality and potential mortal injury
Marine turtle	(N) Low (I) Low (F) Low	(N) High (I) Moderate (F) Low	(N) High (I) Low (F) Low	(N) High (I) Low (F) Low	>210dB SEL _{24h} or >207dB PK

Note: Relative risk (high, moderate, low) is given for animals at three distances from the source defined in relative terms as near (N) – tens of metres, intermediate (I) – hundreds of metres, and far (F) – thousands of metres.

Source: adapted from Popper et al. (2014).


Table 7.8: Criteria for impulsive noise exposure for fish

Potential marine fauna receptor	Mortality and potential mortal injury	Impairment			Behaviour
		Recoverable injury	TTS	Masking	
Fish: No swim bladder (particle motion detection)	>219dB SEL _{24h} or >213dB PK	>216dB SEL _{24h} or >213dB PK	>186dB SEL _{24h}	(N) Low (I) Low (F) Low	(N) High (I) Moderate (F) Low
Fish: Swim bladder not involved in hearing (particle motion detection)	210dB SEL _{24h} or >207dB PK	203dB SEL _{24h} or >207dB PK	>186dB SEL _{24h}	(N) Low (I) Low (F) Low	(N) High (I) Moderate (F) Low
Fish: Swim bladder involved in hearing (primarily pressure detection)	207dB SEL _{24h} or >207dB PK	203dB SEL _{24h} or >207dB PK	186dB SEL _{2h}	(N) Low (I) Low (F) Moderate	(N) High (I) High (F) Moderate
Fish eggs and fish larvae	>210dB SEL _{24h} or >207dB PK	(N) Moderate (I) Low (F) Low	(N) Moderate (I) Low (F) Low	(N) Low (I) Low (F) Low	(N) Moderate (I) Low (F) Low

Source: adapted from Popper et al. (2014)

7.4.3.1 Marine Mammals

Marine mammals that may occur within the vicinity of the survey include low frequency (such as baleen whales), high frequency (odontocetes such as orca and sperm whale), very high frequency (such as dolphins) cetaceans and sirenians (dugongs). No marine mammal BIAs overlap the Operational Area (refer Table 4.5), and the Operational Area lacks aggregating habitat, such as that for foraging, resting or calving. Marine mammal species are expected to be transitory only within the region.

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Modelling of survey geophysical equipment has been undertaken at a number of locations (Zykov *et al.*, 2013; Austin *et al.*, 2012). These studies indicate both peak and frequency-weighted SEL noise emissions from survey equipment such as MBES are typically below sound levels that could result in low and high-frequency marine mammal TTS or PTS from either peak (PK) or sound exposure level (SEL) criteria (Table 7.6) in a horizontal direction.

SSS impulses and MBES sound levels are outside the auditory range of low-frequency marine mammal species/baleen whales (e.g., humpback and pygmy blue whales) but within the high-frequency and very-high-frequency marine mammal auditory range (e.g., sperm whales and dolphins). PTS and TTS thresholds for high-frequency and very-high-frequency marine mammals (Table 7.6) are only expected to be exceeded close to the source.


When reviewing the JASCO (2013) modelling and considering the US NMFS (2018) acoustic threshold for behavioural effects in marine mammals of 160dB re 1µPa (SPL), the boomer could potentially disturb marine mammals at horizontal distances of up to 50m, the SSS at 682m and the MBES at 290m.

Marine mammals use sound for communication, prey capture, predator avoidance, navigation and their physical makeup (i.e., large gas-filled organs). This makes them vulnerable to both disturbance and physiological damage from underwater noise of sufficient magnitude. Survey equipment could cause masking of vocalisations of cetaceans due to the overlap in frequency range between signals and vocalisations. However, such masking impacts would be limited to within hundreds of metres from the sound source.

Eni has considered information contained in relevant recovery plans and approved conservation advice for marine fauna that identify noise emissions a potential threat (as listed in Table 2.4). This includes the objectives and actions within the:

- Conservation Management Plan for the Blue Whale 2015–2025 (Commonwealth of Australia, 2015a).
- Approved Conservation Advice for *Balaenoptera borealis* (Sei Whale)
- Approved Conservation Advice for *Balaenoptera physalus* (Fin Whale)
- Approved Conservation Advice for *Megaptera novaeangliae* (Humpback Whale).

The Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice. Considering there are no regionally significant feeding, breeding or aggregation areas for marine mammals in the Operational Area, impacts are likely to be limited to individuals only. Any impact is anticipated to be slight and will not result in impacts at a population level.

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7.4.3.2 Marine Turtles

The Operational Area overlaps with the BIA for green turtles (foraging) and olive ridley turtles (foraging) and a BIA for the flatback turtles (internesting) is 8km from the Operational Area (Table 4.5). The nearest known marine turtle nesting sites (flatback) are located at the north side of Cape Domett and at Lacrosse Island and Pelican Island in the Cambridge Gulf (approximately 75km south of the Operational Area). Low levels of flatback turtle activity are also reported at Yelcherr Beach (Woodside, 2004). However, marine turtle species are not likely to be resident or occur in the Operational Area in significant numbers. Studies define suitable internesting habitat as areas of water depths less than 16m, which are typically within 5 to 10km of coastlines (Whittock *et al.*, 2016). Water depths in the Operational Area and the area of noise propagation (approximately 40 to 50m depth) suggest they are unlikely to comprise important habitat for the turtles during any life history phase.

Electro-physical studies have indicated marine turtle hearing is most sensitive to sounds between 100 to 700 Hz (McCauley, 1994), which is at the lowest frequency range of a geophysical survey (Table 7.5). Studies indicate turtles may begin to show behavioural responses to an approaching seismic array at received sound levels of approximately 166dB re 1 μ Pa, and avoidance at around 17dB re 1 μ Pa (McCauley *et al.*, 2000). The sound levels of the survey equipment are below those associated with the PK criteria for injury (Table 7.7) beyond a few metres, and due to the low per-pulse SEL, the SEL criteria will also not be exceeded (McPherson, 2020).


Popper *et al.* (2014) presents thresholds of risk (high, medium, low) for turtles at three distances from the source, defined in relative terms as near (N), intermediate (I) and far (F) (Table 7.7). It is expected the noise from survey equipment could reach masking and behavioural thresholds near the sound source only and within hundreds of metres. Any impacts to marine turtles are anticipated to be slight and temporary, relating to behavioural impacts only.

7.4.3.3 Fish

Behavioural impacts to fish from survey equipment noise may occur in individuals located within hundreds of metres of the source. None of the survey equipment has energy below 1 kHz, and therefore it is unable to be heard by most fish, which further reduces the risk of impact (Ladich & Fay, 2013).

Fish may be temporarily displaced from the immediate vicinity of a noise source; however, they would be expected to behave normally once the noise ceased. Thresholds and Rmax distances in JASCO (2013) suggest TTS (186dB SEL_{24h}) in fish could occur within 20m of the sub-bottom profiler chirp and within 1m of the SSS, MBES and boomer. Any fish present are expected to move rapidly outside of the distances at which any total suspended sediment (TSS) could occur.

Demersal and pelagic fish species are present in the Operational Area. Since species richness has been shown to correlate with habitat complexity (Gratwicke & Speight, 2005), it is unlikely the gravelly sand sediments that comprise the largest proportion of the Operational Area support a wide diversity of species. Any impacts to fish are anticipated to be slight and temporary, relating to behavioural impacts only.

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7.4.3.4 Protected Areas

Given the relatively close distance of the Joseph Bonaparte Gulf AMP to the Operational Area (50km east, refer Figure 4.14), an assessment of the consistency of the noise impacts against the values of the AMP has been made in Table 4.9. The values and sensitivities of the AMP are submerged (such as KEFs) or are described above (turtles). Survey noise is not expected to cause an impact to other socioeconomic receptors.

Appropriate controls have been evaluated and adopted to manage potential impacts and risks to the values and sensitivities of the Joseph Bonaparte Gulf AMP to ALARP and acceptable levels.

7.4.4 Environmental Performance Outcomes and Control Measures


EPOs relating to this risk include:

- no injury or mortality to EPBC Act listed fauna during operational activities (EPO-06).

CMs relating to this risk include:


- regulations and measures for interacting with marine fauna (CM-08).

EPSs and MC relating to the above are presented in Section 9.

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7.4.5 As Low as Reasonably Practicable Demonstration


Demonstration of ALARP			
Type	Control / management	Evaluation	Adoption?
Eliminate	Eliminating the surveys	Underwater noise associated with the Blacktip drilling activities cannot be eliminated as the survey assessment techniques are the only way to effectively acquire the data needed to provide assurance to the drilling activity/jack-up MODU placement.	*
Substitute	Scheduling surveys around sensitive periods for marine fauna	Given the low risk to marine fauna in the region, rescheduling the activity will not result in significant environmental benefit.	*
Engineering	Use of soft starts for noise equipment	The noise source is directed towards the sea floor, minimising propagation of the noise source in a horizontal direction. The sound power of the acoustic source will be minimum practicable to obtain the required data. Soft starts are not feasible on geophysical equipment as there is not a typical array (as in seismic activities).	*
Isolation	N/A	N/A.	N/A
Administrative	The use of a dedicated marine fauna observer to spot	May improve the ability to spot and identify marine fauna at risk of impact from noise. However, the high cost of contracting marine fauna observers is grossly disproportionate to the low risk of noise sources on marine fauna.	*
	Regulations and measures for interacting with marine fauna (e.g., EPBC Regulations 8 (Part 8))	Minor cost in complying. Reduces the risk of physical and behavioural impacts to marine fauna. While not directly relating to survey noise, EPBC Regulations include restrictions such as vessel speed and direction when in proximity to marine fauna and are based on legislated requirements.	✓ (CM-08)

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7.4.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	<p>Noise from Blacktip drilling activities are managed in accordance with relevant legislative requirements, including:</p> <ul style="list-style-type: none"> Vessels will comply with EPBC Regulations 2000 – Part 8 Division 8.1 (Interacting with cetaceans). Helicopters will comply with EPBC Regulations 2000 – Part 8 Division 8.3 (Regulation 8.07). <p>Blacktip drilling activities are compliant with the EPBC approval conditions (EPBC 2003/1180).</p>
Policy Compliance	<p>The management of physical presence of the Blacktip drilling activities is aligned with Eni policies and standards. The residual risk is Low, which is acceptable.</p> <p>The EPOs, CMs and EPSs that will be implemented are consistent with Eni internal requirements.</p>
Social Acceptability	<p>To date, no relevant person concerns have been raised regarding noise impacts (refer Section 5).</p> <p>An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>
Area Sensitivity/ Biodiversity	<p>The Operational Area does not contain any BIA for cetacean species.</p> <p>The Operational Area overlaps the foraging BIA for green turtles and olive ridley turtles.</p> <p>Eni has considered information contained in relevant recovery plans and approved conservation advice for cetaceans that identify noise emissions as a threat (as listed in Table 2.4). This includes:</p> <ul style="list-style-type: none"> Conservation Management Plan for the Blue Whale 2015–2025 (Commonwealth of Australia, 2015a) Approved Conservation Advice for <i>Balaenoptera borealis</i> (Sei Whale) Approved Conservation Advice for <i>Balaenoptera physalus</i> (Fin Whale) Approved Conservation Advice for <i>Megaptera novaeangliae</i> (Humpback Whale). <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9).</p>
ESD Principles	<p>The activity is consistent with the principles of ESD because:</p> <ul style="list-style-type: none"> the impacts associated with noise emissions do not result in 'threats of serious or irreversible harm' as detailed within the EPBC Act and biodiversity and ecological integrity will be maintained conservative assumptions have been applied to the impact assessment there are no identified health, diversity or productivity impacts that may affect the biodiversity or ecological function for future generations.
ALARP	The residual risk has been demonstrated to be ALARP.

Given the duration of the Blacktip drilling activities (refer Table 3.1) and sensitivity of marine fauna to the survey noise emissions, potential impacts are minor. Controls have been evaluated above and adopted in accordance with the ALARP criteria (Section 6.3). The residual risk is considered low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Potential impacts are therefore acceptable and ALARP.

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7.5 Artificial Light Emissions (Risk ID P5)

7.5.1 Summary of Environmental Risk

Hazard	Artificial Light Emissions		
	Likelihood	Severity	Risk
Inherent Risk	C	1	L
Residual Risk	B	1	L

7.5.2 Description of Hazard

Lights on the jack-up MODU and vessels will be required on a 24-hour basis during the activities for safety and navigational purposes, in accordance with requirements of the *Navigation Act 2012* (Marine Order Part 30 – Prevention of collisions). External lighting on the jack-up MODU and vessels is located on the decks, with most external lighting directed towards working areas. However, the external lights on the jack-up MODU and vessels will generate light glow and direct illumination of surrounding surface waters.

Flaring will occur for a short period during the Blacktip drilling activities (a period of up to 96 hours, refer Section 3.8.6) with a relatively bright light source. During flaring, additional light emissions will occur from the jack-up MODU at the flare stack.

The distance at which direct light and sky glow may be visible from sources within the Operational Area depend on the characteristics of the lighting and environmental conditions. Sky glow would be more pronounced if flaring is undertaken at night.


7.5.3 Potential Environmental Impact

Artificial light can be received by the environment in three ways, being:

1. directly visible light
2. skyglow, the diffuse scattering of light in the atmosphere above the horizon
3. light spill, the trespass of light outside the area intended, such as the sea surface.

The characteristics of light emissions associated with sources from the Blacktip drilling activities will differ depending upon the number, intensity, spectral output and type of light.

To inform the impact assessment, Eni is able to draw upon artificial light modelling it has previously commissioned for vessel activities in Australia (Pendoley Environmental, 2022). While this modelling is for a large construction vessel, it does provide a useful conservative proxy for light emissions from the MODU and support vessels.

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The modelling study (Pendoley Environmental, 2022) applied the ILLUMINA model (Aube *et al.*, 2005), which represents light across large areas and distances and across the entire visible spectrum and generates quantitative outputs relevant to the assessment of the impacts of light on wildlife and the night sky. The model outputs in units of absolute radiance, $W/m^2/sr$, where W = Watts, m^2 = metres squared and sr = steradian. These units represent the intensity of direct, reflected and scattered (glow) light visible by an observer from a specific location, and considers light equally across the entire visible spectrum.

In the absence of published or generally accepted impact thresholds for evaluating the impact of artificial light on sensitive receptors, an approach based on presenting the light modelling outputs to the visibility of the full moon was used in the modelling.

As the full moon is the brightest natural light source visible within the region of the horizon, presenting modelling outputs as a proportion of full moon equivalent (FME) gives the model outputs some biological relevance for informing impact assessments for marine turtles. Impacts are assessed on a scale of the FME, with different FME ranges assigned an impact level and impact potential criteria that have been developed based on expert opinion (refer Table 7.9). Although the potential effects of artificial light on other marine fauna, such as seabirds or migratory shorebirds, is gaining more recognition, the vulnerability of individuals to negative impacts is highly species-specific and can vary depending on the life stage or behaviour being undertaken at the time (see Commonwealth of Australia (2020a) for review). Accordingly, while presenting radiance as a measure relative to that of a full moon is biological relevant to other marine taxa, potential impact criteria could not be defined (Pendoley Environmental, 2022).

Furthermore, the sensitivity of a hatchling turtle to directional light can be described by a specific 'cone of acceptance', which indicates a hatchling's field of view. This is defined by Lohmann *et al.* (1997) as 180° horizontally and 30° vertically. To understand potential impacts of modelled light emissions on hatchling behaviour, radiance was averaged over the brightest light source with this field of view (orientation field of view) and converted to FME.


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Table 7.9: Artificial light impact potential for marine turtles (Pendoley Environmental, 2022)

Impact level	FME ranges ¹	Impact potential criteria for marine turtles
4	10 to 100	Light or light glow visible and impact likely. Represents a very bright light, equivalence of up to 100 times the radiance of one moon. This light radiance will greatly override the moderating influence of the ambient full moon at the time of exposure.
3	1 to 10	Light or light glow visible and impact likely. Represents a bright light, equivalence of up to ten times the radiance of one moon. This light radiance will override the moderating influence of the ambient full moon at the time of exposure.
2	0.1 to 1	Light or light glow visible and behavioural impact possible, depending on ambient moon phase at the time of exposure, which will influence the visibility of the artificial light sources, equivalent to the light output. Artificial lights will be more visible to marine turtles under a first quarter moon than under a full moon.
1	0.01 to 0.1	Light or light glow visible but behavioural impact unlikely; as in, not biologically relevant. Equivalent to the light output from the first quarter moon to new moon.
NA	<0.01	Light or light glow is considered ambient and no impact expected. Equivalent to the light output from a new moon.


Note 1: Proportion of radiance of a full moon within orientation field of view, where 100 equals the radiance of one hundred full moons and 0.01 equals 100th the radiance of one full moon.

The distances at which the orientation field of view FME value is predicted to fall below 0.01 (ambient levels) is 16.2km. Light is expected to be visible, but behavioural impacts to marine turtles unlikely, at distances beyond 5.2km. Behavioural impacts to marine turtles are possible within 1.7km of the source (Table 7.10) (Pendoley Environmental, 2022).

Table 7.10: Summary of available artificial light modelling results for a pipelay vessel

Impact level	FME	Distance (m)
4	10 to 100	<540
3	1 to 10	540
2	0.1 to 1	1680
1	0.01 to 0.1	5210
NA	<0.01	>16,150

The impacts to the relevant receptors are described further in the following paragraphs.

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As a conservative measure, impacts to light-sensitive species have been considered by reviewing the National Light Pollution Guidelines for Wildlife (Commonwealth of Australia, 2023), which recommends applying a 20km buffer around the light source. A 20km buffer provides a precautionary limit based on observed effects of sky glow on marine turtle hatchlings, demonstrated to occur at 15 to 18km, and fledgling seabirds grounded in response to artificial light 15km away (Commonwealth of Australia, 2023). The exact details of the MODU, vessel and flare light sources are unknown for the Blacktip drilling activities. Given this uncertainty, it is assumed light could be visible on the horizon at distances up to approximately 20km during vessel use, based on review of the National Light Pollution Guidelines for Wildlife (Commonwealth of Australia, 2023).

For use, a conservative approach has been taken for the maximum distance light could be visible. A line-of-sight assessment was undertaken by Woodside (2019) and predicted that direct light from flaring may be visible up to 52.4km (best available analogue to well flowback). At such distance, the light sources would be visible as small points on the horizon. The line-of-sight calculation is considered conservative as it does not allow for attenuation of light with distance. The light sources in the line-of-sight assessment may also emit a different type of light and wavelength to that used during the Blacktip drilling activities.


7.5.3.1 Marine Turtles

The Operational Area and a 20km buffer surrounding it overlaps with the BIA for green turtles (foraging), olive ridley turtles (foraging) and flatback turtles (internesting buffer) (Section 4.4). The Operational Area and a 20km buffer are located more than 55km to the north of the nearest known marine turtle nesting sites (flatback) at the north side of Cape Domett and at Lacrosse Island and Pelican Island in the Cambridge Gulf. Even in an eventuality that a flare light reaches a distance of approximately 50km, the light will not be visible from the nearest turtle nesting sites. It should also be noted that the flaring is only a maximum of 96 hours (per well).

The behavioural response of marine turtles to artificial light depends upon the life stage or behaviours being undertaken at the time and the characteristics of the light sources themselves.

Wavelength particularly has been shown to significantly affect the vulnerability of individuals to artificial light. In general, artificial light rich in short wavelength blue and green light are most disruptive (Fritsches, 2012; Pendoley, 2005; Witherington, 1991). Although longer wavelengths of light are less attractive than shorter wavelengths, long wavelength light can still disrupt sea-finding of hatchlings (Robertson *et al.*, 2016; Pendoley, 2005; Pendoley & Kamrowski, 2015), and if bright enough, can elicit a similar response to shorter wavelength light (Mrosovsky, 1972; Mrosovsky & Shettleworth, 1968; Pendoley & Kamrowski, 2015; Cruz *et al.*, 2018). Red light must be almost 600 times more intense than blue light before green turtle hatchlings show an equal preference for the two colours (Mrosovsky, 1972).

The main implication of artificial lighting for marine turtles is the disruption of hatchling sea-finding behaviour. The below presents an assessment of the light emissions on the different stages of marine turtle lifespan.

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Foraging and Migration

Foraging adult turtles have been observed feeding on prey presumed to be attracted by lights of oil production platforms in the Gulf of Mexico (Kebodeaux, 1994). However, illumination of fishing gear has been implemented as a by-catch reduction measure as the light sources allow individuals to avoid the net (Ortiz *et al.*, 2016). This suggests marine turtles are most likely attracted to increased prey abundance around offshore facilities, rather than the light sources itself.

Light cues are not thought to guide migration and no evidence to date suggests artificial light disrupts migration or leads to disorientation in adult marine turtles.


Although the Operational Area and 20km buffer overlaps the BIAs for the green turtles (foraging), olive ridley turtles (foraging) and flatback turtles (internesting buffer) (Table 4.5), the number of individuals likely to be present is expected to be low. Suitable internesting habitat for flatback turtles is typically defined as water depths shallower than 16m (Whitlock *et al.*, 2016). Internesting olive ridley turtles remain relatively close to nesting beaches during the nesting period (in comparison to post-nesting movements); tagged turtles remained within 48km of the nesting beach in waters typically <30m water depth (Hamel *et al.*, 2008). Water depth in the vicinity of the Operational Area is approximately 50m and the nearest marine turtle nesting sites are located more than 75km south. It is therefore reasonable to assume the Operational Area and 20km buffer are not used as a significant foraging or internesting location. Even in an eventuality that a flare light is visible approximately 50km from source, this would be for a short period (96 hours per well) and significant impacts to internesting and foraging turtles are not anticipated.

If individual adult turtles are present, light emissions are unlikely to be of concern. There is no evidence, published or anecdotal, to suggest internesting turtles are impacted by light from offshore vessels, and nothing in their biology would indicate this as a plausible threat (Witherington & Martin, 2003). Potential impacts to foraging turtles are limited to local attraction to prey species attracted to light (Kebodeaux, 1994). As such, the impact to adult marine turtles from light is anticipated to be slight and temporary.

Nesting and Hatchling Emergence

The effects of artificial light on female nesting and hatchling emergence behaviour have been well documented, and include:

- disrupted nest site selection and orientation of females on the beach (Witherington & Martin, 2003)
- lower nesting density on beaches with significant light spill; for example, from urban development adjacent to nesting beaches (Salmon, 2003; Hu *et al.*, 2018)
- disrupted hatchling sea-finding behaviour (Withington & Martin, 2003; Pendoley & Kamrowski, 2015; Kamrowski *et al.*, 2014) resulting in:
 - disorientation – where hatchlings crawl on circuitous paths
 - misorientation – where hatchlings move in the wrong direction, possibly in the direction of artificial lights (Witherington & Martin, 2003; Lohmann *et al.*, 1997; Salmon, 2003)

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- hatchlings disoriented or misoriented by artificial lighting, such that they may take longer, or fail, to reach the sea. This may result in increased mortality through dehydration, predation, or exhaustion (Salmon & Witherington, 1995).

Given the Operational Area and a 20km buffer is located more than 55km south from the nearest marine turtle nesting sites (flatback) at the north side of Cape Domett and at Lacrosse Island and Pelican Island in the Cambridge Gulf impact, light emissions are not expected to affect the sea-finding behaviour of hatchling turtles. Even in an eventuality that a flare light is visible at approximately 50km from the source, the light will not be visible from the nearest turtle nesting sites. It should also be noted the flaring is only a maximum of 96 hours per well. Impacts are not anticipated to hatchlings emergence.

Hatchling Dispersal


Once hatchlings have traversed the beach after emerging from nests, they enter the ocean and disperse rapidly to avoid predation in predator-rich nearshore habitats, before reaching deeper waters where they develop into juveniles. As they traverse the beach, an internal compass, together with wave cues, guide hatchlings offshore to open ocean (Lohmann & Lohmann, 1992; Stapput & Wiltschko, 2005; Wilson *et al.*, 2021). The speed and direction of at-sea dispersal is substantially influenced by ocean currents. Tracking studies of flatback hatchlings at Thevenard Island found individuals were displaced by tidal currents at 100m from shore that ran parallel to the beach, an effect that increased as the hatchlings moved further offshore (Wilson *et al.*, 2018; 2019). It is assumed the density of dispersing hatchlings decreases with distance from nesting beaches as individuals are dispersed by ocean currents.

Given the Operational Area and a 20km buffer is located more than 55km north from the nearest marine turtle nesting sites (flatback) at Cape Domett and Lacrosse Island and Pelican Island in the Cambridge Gulf. Impact from light emissions are not expected to affect the hatchling dispersal. Even in an eventuality that a flare light is visible at approximately 50km from source, the light will not be visible from the nearest turtle nesting sites. It should also be noted the flaring is only a maximum of 96 hours per well. Impacts are not anticipated to hatchling dispersal.

Recovery Plan for Marine Turtles in Australia 2017–2027

The Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017b) highlights artificial light as a threat to marine turtles. Specifically, the plan indicates artificial light may reduce the overall reproductive output of a stock, and therefore recovery of the species, by:

- inhibiting nesting by females
- disrupting hatchling orientation and sea-finding behaviour
- creating pools of light that attract swimming hatchlings and increase their risk of predation.

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Given the Operational Area distance from nesting beaches, lighting is not anticipated to displace marine turtles from critical habitats or impact nesting adults and emerging and dispersing hatchlings. Light emissions may cause localised and temporary behavioural disturbance to transient individual marine turtles (as described in the above sections). Blacktip drilling activities are not inconsistent with the actions and objectives within the Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017b) or the National Light Pollution Guidelines for Wildlife (Commonwealth of Australia, 2023).

Appropriate controls have been considered (refer Section 7.5.4), such as those within the National Light Pollution Guidelines for Wildlife (Commonwealth of Australia, 2023), to reduce the impacts of light emissions to ALARP and acceptable levels.

7.5.3.2 Fish and Zooplankton

Fish and zooplankton may be directly or indirectly attracted to light. Light during night-time activities is likely to result in aggregations of fish around the vessels, as they are attracted to the light and increased food availability. While there is the potential for increased predation activity, the impact to fish and zooplankton from light is anticipated to be slight and temporary.

7.5.3.3 Sea Snakes

Sea snakes may also occur within the Operational Area. While the direct effect of artificial light on sea snakes is largely unknown, they may experience indirect effects such as changes in predator-prey relationships and disorientation, attraction, or repulsion.


Behavioural impacts to snakes from light emissions from the vessels are anticipated to be slight and temporary.

7.5.3.4 Seabirds

No BIAs for seabirds occur within the Operational Area. The nearest roosting areas are more than 75km away on the north Kimberley coastline (Table 4.5).

Artificial light can have a variety of effects on seabirds, depending upon the species and the life stage or behaviours being undertaken at the time. Negative responses of birds to artificial light may include collision, entrapment, stranding, grounding, disorientation, or interference with navigation – being drawn off course from their usual migration route – potentially resulting in reduced fitness, in injury or death (see Commonwealth of Australia, 2023 for review).

Species with a nocturnal component of their life history, such as procellariiforms (shearwaters, petrels and storm petrels), are at greater risk of negative impacts. The most significant impacts recorded, in terms of numbers of individuals impacted, have been associated with the synchronised mass exodus of procellariiform fledglings from nesting sites at night (Deppe *et al.*, 2017; Raine *et al.*, 2007; Rodriguez *et al.*, 2015a; Rodriguez *et al.*, 2015b; Le Corre *et al.*, 2002; Reed *et al.*, 1985).

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No important nesting sites for procellariiform species are located within 500km of the Operational Area; therefore, impacts to breeding adults or fledgling procellariiforms are not expected.

Nocturnal foraging at sea is known to occur across the procellariiform order, with preferences for bioluminescent prey (Imber, 1975). This is likely linked to the vertical migration of prey in the water column; the greater abundance of prey closer to the sea surface under darkness enables more efficient foraging by birds compared to during daylight. While no foraging BIAs for procellariiforms overlap with or occur within 500km of the Operational Area, nocturnal seabirds, such as the streaked shearwater, may traverse the area and forage in low numbers.

Reports of procellariiforms being attracted to vessels and oil and gas facilities exist (Black, 2005; Merkel & Johansen, 2011; Montevecchi, 2006); however, interaction events are usually associated with weather conditions providing poor visibility. These conditions are not common within the region, suggesting any interaction between procellariiforms and the Blacktip offshore facilities would be limited to individuals rather than populations.

Diurnal seabird species, such as terns, noddies, frigatebirds and tropicbirds, in contrast to procellariiforms, are less vulnerable to impacts of artificial light, given the absence of nocturnal behaviours. However, the presence of facilities can alter foraging behaviours, potentially in response to aggregation of increased prey density around platforms – as described for fish above – or due to light sources artificially extending day length and foraging activities. Although such attraction increases the risk of collision with facilities, incidents of collision of these species, or similar taxonomic groups, are few (see Ronconi *et al.*, 2015 for review).


While these effects are unlikely to lead to negative impacts at the individual or population level, seabirds roosting on offshore platforms, as observed at the Blacktip WHP, can present safety risks.

7.5.3.5 Migratory Shorebirds

Artificial lighting has been shown to influence the foraging behaviour in shorebirds, with increased foraging success in areas illuminated by artificial light (Santos *et al.*, 2010). Although shorebirds may be attracted to foraging areas with increased illumination, artificial light near nocturnal roosting sites may displace shorebirds if they select darker roost areas, where risk of predation is perceived to be lower (Rogers *et al.*, 2006). Given the lack of natural roost sites or intertidal foraging areas in the vicinity of the Operational Area, artificial light is unlikely to impact these behaviours.

7.5.3.6 Marine Mammals

Direct effects of artificial lighting on marine mammals have not been reported. Since fish species may pool in areas of light spill, dolphins may be indirectly attracted to areas of increased light due to increased prey availability. Mammals use variations in the length of day to anticipate environmental changes and to time their reproduction; therefore, light pollution that affects day length perception could lead to changes in biological functions. However, since marine mammals occurring within the region will be transient, such effects are not expected.

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Behavioural impacts are expected to be limited to increased foraging in response to increased prey abundance around stationary light sources, with no anticipated impacts at the individual or population levels.

7.5.3.7 Protected Areas

Given the relatively close distance of the JGB AMP to the Operational Area (50km east, refer Figure 4.14), an assessment of the consistency of the light impacts against the values of the AMP has been made in Table 4.9. The values and sensitivities of the AMP are submerged (such as KEFs) or are described above (turtles). Lighting is not expected to cause an impact to other socioeconomic receptors other than to act as a visual cue for avoidance of the area by other marine users for safety purposes.

Appropriate controls have been evaluated and adopted to manage potential impacts and risks to the values and sensitivities Joseph Bonaparte Gulf AMP to ALARP and acceptable levels.

7.5.4 Environmental Performance Outcomes and Control Measures


EPOs relating to this risk are:

- No significant impacts to marine fauna from lighting emissions (EPO-07).


No control measures have been identified to manage light emissions during the activity. However, the Blacktip drilling activity lighting is managed in accordance with navigational and safety requirements (refer Section 7.1).

7.5.5 As Low as Reasonably Practicable Demonstration

Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Eliminate light sources on the MODU and vessels	Lighting levels cannot be reduced or eliminated as this would introduce navigational and occupational safety hazards and non-compliance with codes and regulations.	✘
	No night-time operations	Eliminating lighting at night would restrict the activity hours to during the daytime, resulting in the activity taking approximately twice as long to complete. Given the low levels of lighting already on the vessels, there would be little environmental benefit.	✘
	Eliminating flaring	Flaring is a requirement of the activity. Flaring is required to clean up drilling and completion fluids from the well, measure the production potential and identify any potential reservoir damage. Eliminating flaring may lead to technical difficulties and production uncertainty on the well.	✘


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Demonstration of ALARP			
Substitute	<p>Adopt measures on the vessels/MODU designed to minimise impacts and marine turtles as per National Light Pollution Guidelines for Wildlife (management actions) (Commonwealth of Australia, 2023):</p> <ul style="list-style-type: none"> • Use non-reflective, dark-coloured surfaces (best practice design principle 5) • Replace some or all lights with reduced or filtered blue, violet, and ultraviolet wavelengths (best practice design principle 6) 	<p>Substituting external lighting for lights/design such as those identified in the National Light Pollution Guidelines for Wildlife would result in significant cost sacrifice and time expenditure.</p> <p>Given the distance of the Operational Area, from the nearest nesting sites and the already slight impacts of lighting from the Blacktip drilling activities on marine fauna, cost of adopting measures (management actions) within the National Light Pollution Guidelines for Wildlife outweighs the environmental benefit.</p> <p>Lighting is already applied to levels required for safe work conditions and navigational purposes on the vessel.</p>	*
Engineering	<p>Adopt measures designed to minimise impacts and marine turtles from flare as per National Light Pollution Guidelines for Wildlife (management actions) (Commonwealth of Australia, 2023):</p> <ul style="list-style-type: none"> • Shield gas flares and locate inland away from nesting beach 	<p>Shielding the gas flare will reduce the light emissions by using a containment structure and can shield sensitive areas (e.g., nesting locations).</p> <p>Given the distance of the Operational Area from the nearest nesting sites and the already slight impacts of lighting from the Blacktip drilling activities on marine fauna, the cost of adopting this measure outweighs the environmental benefit. Flaring is also planned to occur over a very short period and is not a constant for the duration of the Blacktip drilling activities.</p>	N/A
Isolation	N/A	N/A.	N/A
Administrative	<p>Navigation equipment and procedures (lighting as required for safe work conditions and navigational purposes)</p>	<p>This control is already a requirement under Marine Orders and discussed in Section 7.1. It does not relate to reducing lighting effects on marine fauna. Unnecessary lighting is reduced.</p>	<p>✓ (CM-01. as a control in Section 7.1)</p>

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7.5.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	<p>Light emissions from Blacktip drilling activities are managed in accordance with relevant legislative requirements, including compliance with international maritime conventions and Australian legislation.</p> <p>Blacktip drilling activities are compliant with the EPBC approval conditions (EPBC 2003/1180).</p>
Policy Compliance	<p>The management of lighting from the Blacktip drilling activities is aligned with Eni policies and standards. The residual risk is Low, which is acceptable. The EPOs, CMs and EPSs that will be implemented are consistent with Eni internal requirements.</p>
Social Acceptability	<p>To date, no relevant person concerns have been raised regarding light (refer Section 5).</p> <p>An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>
Area Sensitivity/ Biodiversity	<p>Eni has considered information contained in relevant recovery plans and approved conservation advice for cetaceans and marine turtles that identify artificial light emissions as a threat (as listed in Table 2.4). Management of artificial light emissions is aligned with guidelines, conservation advice, and recovery plans for threatened species, including:</p> <ul style="list-style-type: none"> the National Light Pollution Guidelines for Wildlife including Marine Turtles, Seabirds and Migratory Shorebirds (Commonwealth of Australia, 2023) Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017b) Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2020) EPBC Act Policy Statement 3.21 Industry guidelines for avoiding, assessing, and mitigating impacts on EPBC Act listed Migratory shorebird species (Commonwealth of Australia, 2017c). <p>Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice (Table 2.5). The evaluation of impacts and risks indicates significant impacts to MNES will not result from artificial light emissions.</p> <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9).</p>
ESD Principles	<p>The activity is consistent with the principles of ESD because:</p> <ul style="list-style-type: none"> the impacts associated with light emissions do not result in 'threats of serious or irreversible harm' as detailed within the EPBC Act and biodiversity and ecological integrity will be maintained conservative assumptions have been applied to the light impact assessment there are no identified health, diversity or productivity impacts that may affect the biodiversity or ecological function for future generations.
ALARP	The residual risk has been demonstrated to be ALARP.

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Given the short duration of the Blacktip drilling activities (refer Table 3.1) and the distance of the Operational Area from the nearest turtle nesting beaches, the potential impacts are considered slight. Controls have been evaluated in accordance with the ALARP criteria (Section 6.3). The residual risk associated with light emissions is considered low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Potential impacts associated with light emission are therefore acceptable and ALARP.

7.6 Grey Water, Sewage and Putrescibles Discharge (Risk ID P6)

7.6.1 Summary of Environmental Impact

Hazard	Grey Water, Black Water and Putrescible Waste Discharges		
	Likelihood	Severity	Risk
Inherent Risk	C	2	M
Residual Risk	A	2	L

7.6.2 Description of Hazard


Grey water and sewage as well as food wastes will be generated on-board the jack-up MODU and support vessels, with volumes being directly proportional to the persons on board. The typical persons on board the jack-up MODU and support vessels is in the order of 100 to 120 and 20 to 30, respectively. Based on information presented by National Energy Resources Australia (2017), it is estimated 0.04 to 0.45m³ of sewage and greywater, per person per day, will be released to the marine environment during Blacktip drilling activities. The volume of putrescible wastes varies depending on persons on board; however, it is predicted approximately 1 to 2 kg of wastes per day per person.

7.6.3 Potential Environmental Impact

The discharge of sewage and putrescible wastes may result in localised increase in nutrients in the marine environment, which can increase nutrient availability, algal growth and subsequently eutrophication (National Energy Resources Australia, 2017). However, typically, this occurs in waters with little water movement or exchange. The mass of nutrients to be discharged in sewage each day is likely to be small and, given the open ocean environment, rapid dilution of the effluent is expected, resulting in highly localised effects (Black *et al.*, 1994). Eutrophication will not occur as the vessel operations are infrequent and in the open sea environment, with continuous water exchange driven by tidal currents.

Some fish and marine seabirds may be attracted to the vessel by the discharge of food waste. However, given the small quantities, intermittent nature of discharge and swift currents, any attraction is likely to be slight and is not anticipated to result in adverse impacts at an ecosystem or population level.

Given the temporary (hours) and highly localised nature of the water quality change, as well as the transient nature of marine fauna, impacts from exposure to a reduction in water quality are not expected, but at worst, would be limited to behavioural change to a small number of individuals. Given the rapid dilution and dispersion of the discharge, any impact is anticipated to be slight and will not result in impacts at a population level.

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7.6.4 Environmental Performance Outcomes and Control Measures


EPOs relating to this risk include:

- no unplanned discharges to sea of untreated sewage, greywater, putrescible wastes, bilge, and deck drainage (EPO-08).

CMs relating to this risk include:


- vessels and jack-up MODU comply with Marine Order 96 (Marine pollution prevention – sewage) (CM-09)
- vessels and jack-up MODU comply with Marine Order 95 (Marine pollution prevention – garbage) (CM-10).

EPSs and MC relating to the above are presented in Section 9.

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7.6.5 As Low as Reasonably Practicable Demonstration


Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Eliminating discharge on vessels and MODU	<p>The generation of sewage, greywater and putrescible waste by personnel cannot be eliminated on the vessels or jack-up MODU, as storing the waste would present a safety issue.</p> <p>Transportation to shore was considered as an alternative to ocean discharge; however, this would be excessively costly and impractical, due to the lack of storage capacity onboard the vessels and jack-up MODU, and would result in increased vessel transits to provide ship-to-shore services. It also provides an increased exposure to biological health hazards, and safety hazards such as bulk transfer and heavy lifting operations.</p> <p>This discharge is permitted under Marine Orders and is not anticipated to present significant environmental impact.</p>	*
Substitute	N/A	N/A.	N/A
Engineering	N/A	N/A.	N/A
Isolation	N/A	N/A.	N/A
Administrative	Implementation of measures in Marine Order 95 (Marine pollution prevention – garbage)	<p>Marine Order 95 reduces potential impacts of inappropriate discharge of sewage. Stipulates putrescible (food) waste disposal conditions and limitations.</p> <p>Environmental benefit outweighs the minor administrative costs in implementing the Marine Order.</p>	✓ (CM-09)
	Implementation of measures in Marine Order 96 (Prevention of pollution – sewage)	<p>Marine Order 96 reduces probability of garbage being discharged to sea.</p> <p>Environmental benefit outweighs the minor administrative costs in implementing the Marine Order.</p>	✓ (CM-10)

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7.6.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	<p>Discharges comply with the requirements of the <i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i>, which in Australian waters reflects MARPOL, and is enacted by:</p> <ul style="list-style-type: none"> • Marine Order 95: Marine pollution prevention – garbage • Marine Order 96: Marine pollution prevention – sewage. <p>Blacktip drilling activities are compliant with the EPBC approval conditions (EPBC 2003/1180).</p>
Policy Compliance	<p>The management of the discharge is aligned with Eni policies and standards. The residual risk is Low, which is acceptable.</p> <p>The EPO and the controls that will be implemented are consistent with Eni internal requirements.</p>
Social Acceptability	<p>To date, no relevant person concerns have been raised regarding discharges (refer Section 5).</p> <p>An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>
Area Sensitivity/ Biodiversity	<p>There are no resident sensitive water column environmental receptors in the Operational Area. The volumes of putrescible waste discharged will be small and will be rapidly broken down or consumed.</p> <p>Wastewater discharge has not been identified as a threat in any recovery plans or conservation advice for Threatened and Migratory species. However, Eni has considered information contained in relevant recovery plans and approved conservation advice for cetaceans and marine turtles that identify chemical discharges and pollution as a threat (as listed in Table 2.4). Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice.</p> <p>The evaluation of impacts and risks indicates significant impacts to MNES will not result from the discharges.</p> <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9).</p>
ESD Principles	<p>Blacktip drilling activities are consistent with the principles of ESD because:</p> <ul style="list-style-type: none"> • the impacts associated with the discharge do not result in 'threats of serious or irreversible harm' as detailed within the EPBC Act and biodiversity and ecological integrity will be maintained • there are no identified health, diversity or productivity impacts that may affect the biodiversity or ecological function for future generations.
ALARP	The residual risk has been demonstrated to be ALARP.

Given the short duration of the Blacktip drilling activities (refer Table 3.1) in the Operational Area, the potential impacts associated with discharge of sewage, greywater and putrescible wastes are considered to be minor. Controls have been evaluated above and adopted in accordance with the ALARP criteria (Section 7.6.5). The residual risk is considered to be low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Therefore, the potential impacts associated with discharge of sewage, greywater and putrescible wastes are acceptable and ALARP.

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7.7 Discharge of Contaminated Water (Risk ID P7)

7.7.1 Summary of Environmental Risk

Hazard	Discharge of Contaminated Water		
	Likelihood	Severity	Risk
Inherent Risk	C	1	L
Residual Risk	B	1	L

7.7.2 Description of Hazard

On the jack-up MODU and support vessels, under normal operating conditions, scupper plugs are fitted at open deck drainage points to direct drainage to the bilge water tank for processing. However, if clean water builds up after, for example, heavy rain, these plugs are manually removed, allowing the clean water to drain to sea.

Bilge water is generated on the jack-up MODU and support vessels and consists of deck drainage and machinery space water that has been directed to a bilge water tank. Sources of contamination include chemical spills on deck. Bilge water shall be diverted to a holding tank either for onshore disposal at an appropriately licenced facility, or for discharge with an oil content of less than 15 parts per million (ppm) in accordance with Marine Order 91.


Cooling water is used as a heat exchange medium for the cooling of machinery engines on the jack-up MODU and support vessels. Seawater is drawn from the ocean and flows counter-current through closed-circuit heat exchangers, transferring heat engines and machinery to the seawater. The seawater is then discharged to the ocean. Cooling water temperatures vary depending upon the vessel engine's workload and activity; however, may be in the vicinity of 32°C.

7.7.3 Potential Environmental Impact

The environmental impacts associated with an oily water discharge are likely to be highly localised and temporary, due to the low volumes and the high dilution rates expected at the open ocean environment of the Operational Area (Black *et al.*, 1994). Hinwood *et al.* (1994) predicted dilution factors more than 10,000m within 100m of the discharge point.

Cooling water will remain in the surface layer, where turbulent mixing and heat transfer with surrounding waters will occur. This will cause a temporary and highly localised increase in water temperature. Given the temperature of the discharge is subject to strong currents, the impact of cooling water discharges is considered to be a slight, temporary and localised change in water quality.

Residual quantities of condensate which could be discharged during a pipeline replacement activity would quickly disperse in the marine environment, particularly given the high current and wave energy in the region.

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Given the temporary (hours) and highly localised nature of the water quality change, as well as the transient nature of marine fauna, impacts from exposure to a reduction in water quality are not expected, but at worst, would be limited to behavioural change in a small number of individuals. Given the rapid dilution and dispersion of the discharge, any impact is anticipated to be slight and will not result in impacts at a population level.

7.7.4 Environmental Performance Outcomes and Control Measures


EPOs relating to this risk include:

- no unplanned discharge of oily water or chemicals (EPO-09).

CMs relating to this risk include:


- vessels and jack-up MODU comply with Marine Order 91 (Marine pollution prevention – oil) (CM-11).

EPSs and MC relating to the above are presented in Section 9.

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7.7.5 As Low as Reasonably Practicable Demonstration


Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Eliminate contaminated water discharge on MODU and vessels	Eliminating the discharge would mean storing the liquids on the vessels and MODU. Storage space required for containment and an increase in transfers to shore for disposal would be required. Increased transfers result in increased fuel usage and increased safety risks (transport and handling).	*
Substitute	N/A	N/A.	N/A
Engineering	Equip vessels and MODU with oily water prevention system and IMO-approved oil filtering equipment	Reduces potential impacts of planned discharge of oily water to the environment, with minor administrative and maintenance cost.	✓ (Through compliance with Marine Order 91)
	Continually plug the deck drains on vessels and MODU to prevent deck drainage	Would eliminate potential impacts of contaminants being discharged to sea from deck water; however, would present increased health and safety risks from wet deck and water on a vessel/MODU deck can also cause stability issues. Storage space required for containment of drained liquids and increase in transfers to vessels, resulting in increased potential impacts and risks.	*
Isolation	Capture contaminated waters/bilge water	Fixed equipment, such as engines and generators, are contained and captured in the bilge water tank for treatment via the oil in water (OIW) separator (on vessels and MODU) in compliance with Marine Order 91.	✓ (Through compliance with Marine Order 91)
Administrative	Vessels and jack-up MODU comply with Marine Order 91: Marine pollution prevention – oil	Marine Order 91 stipulates the oily water prevention system and treatment requirements for oil in water discharge from vessels and MODU. Environmental benefit outweighs the minor administrative costs in implementing the Marine Order.	✓ (CM-11)

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7.7.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	Discharges comply with the requirements of the <i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i> , which in Australian waters reflects MARPOL, and is enacted by: <ul style="list-style-type: none"> Marine Order 91: Marine pollution prevention – oil. Blacktip drilling activities are compliant with the EPBC approval conditions (EPBC 2003/1180).
Policy Compliance	The management of the discharge is aligned with Eni policies and standards. The residual risk is Low, which is acceptable. The EPO and the controls that will be implemented are consistent with Eni internal requirements.
Social Acceptability	To date, no relevant person concerns have been raised regarding discharges (refer Section 5). An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.
Area Sensitivity/ Biodiversity	There are no resident sensitive water column environmental receptors in the Operational Area. The volumes of putrescible waste discharged will be small and will be rapidly broken down and consumed. Wastewater discharge has not been identified as a threat in any recovery plans or conservation advice for Threatened and Migratory species. However, Eni has considered information contained in relevant recovery plans and approved conservation advice for marine fauna that identify chemical discharges and pollution as a threat (as listed in Table 2.4). Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice. The evaluation of impacts and risks indicates significant impacts to MNES will not result from the discharges. The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9).
ESD Principles	Blacktip drilling activities are consistent with the principles of ESD because: <ul style="list-style-type: none"> the impacts associated with the discharge do not result in 'threats of serious or irreversible harm' as detailed within the EPBC Act and biodiversity and ecological integrity will be maintained there are no identified health, diversity or productivity impacts that may affect the biodiversity or ecological function for future generations.
ALARP	The residual risk has been demonstrated to be ALARP.

Given the duration of the Blacktip drilling activities (refer Table 3.1), the low volume of discharge from the jack-up MODU and vessels relating to contaminated water discharge and receptors in the Operational Area, the potential impacts associated with discharge of contaminated water are considered to be slight. Controls have been evaluated above and adopted in accordance with the ALARP criteria (Section 7.7.5). The residual risk is considered to be low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Therefore, the potential impacts associated with discharge of contaminated water are acceptable and ALARP.

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7.8 Drilling Muds and Fluid Discharges (Risk ID P8)

7.8.1 Summary of Environmental Risk Assessment

Hazard	Drilling Fluid Discharges		
	Likelihood	Severity	Risk
Inherent Risk	C	2	M
Residual Risk	B	2	L

7.8.2 Description of Hazard


During the Blacktip drilling activities, the expected drilling muds and fluids discharges to the marine environment are presented in Table 7.11, along with the estimated discharge volumes.

Table 7.11: Summary of estimated muds and fluid discharges

Discharge	New Blacktip Development Well	Contingent Workover Operations
WBM muds and seawater/completion brine (m ³)	4049	280
Tank cleaning residue (m ³)	Covered in above WBM and seawater volume above	No additional discharge
Cuttings (m ³)	748	102
Cement unit testing, commissioning, and cleaning operations (m ³)	5	No additional discharge
Cement operations (m ³)	35	NA
Wellbore clean-up fluids/brine	Approximate well-cleanup discharges are shown in Table 3.7	Approximate well-cleanup discharges are shown in Table 3.10
Disposal of excess bulk products (following process in Section 7.8.2.5)	75MT bulk powder (calcium carbonate)	No additional discharge

Impacts from the discharge of cuttings have been discussed in Section 7.9. Note, hook-up and commissioning operations are within the scope of the Blacktip Operations EP (000036_DV_PR.HSE.0677.000).

The requirement to re-spud a well is a low likelihood; however, if performed, could result in additional discharge, in line with those in Table 7.11.

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7.8.2.1 Drilling Fluids and Muds

During drilling and workover operations, the jack-up MODU will use drilling fluids, commonly referred to as 'muds'. These consist of a mixture of base fluid, liquid and solid additives, and weighting materials, and are mixed, stored and maintained in tanks on the MODU. The drilling mud is essential to many aspects of the drilling process, including protection of equipment, stabilisation of the well bore and removal of drill cuttings. The most important function of the drilling mud is to maintain primary well control.

The WBM drilling fluid will comprise of water or brine (more than 90% aqueous) as the major liquid phase. The remainder of the WBM will be made up of low-toxicity drilling fluid solid additives (such as barite or bentonite) and chemicals that are either completely inert or additives (e.g., low-toxicity drilling fluid solid additives, such as barite or bentonite).


WBM is planned to be used for all sections of the new Blacktip development well (refer Table 3.6). A 36-inch tophole will be drilled with seawater and pre-hydrated bentonite sweeps with cutting returns to the seabed. After installing the 30-inch conductor, all sections of the well will be drilled with a riser in place. The riser will return the drilling muds and drill cuttings to the MODU, and the mud will be recycled by removing the drill cuttings with solids control equipment (SCE). The WBM (on cuttings) will then be operationally discharged to the marine environment below the sea surface.

Contingent workover operations will utilize WBM as well (refer Table 3.9). The 8-1/2" hole section will be drilled with a riser in place. The riser will return the drilling muds and drill cuttings to the MODU, and the mud will be recycled by removing the drill cuttings with solids control equipment (SCE). The WBM (on cuttings) will then be operationally discharged to the marine environment below the sea surface.

WBM may also be discharged in instances where the WBM cannot be recirculated or re-used through the drilling fluid system (due to deterioration or contamination).

7.8.2.2 Tank Cleaning Residue

At stages during the activities, tanks need to be cleaned, including mud pits, cement mixing and holding tanks and bulk storage tanks. Cleaning may be required to remove 'dead' volumes of product, contaminated material and cement before it cures. In most instances, a tank would be flushed with seawater or drill water and the diluted fluid discharged to sea.

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7.8.2.3 Cement

Cement is used to form permanent barriers and fix casings in place prior to drilling subsequent sections of the well. Cement fluids generally consist of a cement with additives (such as inorganic salts, lignins, bentonite, resin and surfactants). The majority of cement pumped remains downhole, but some volumes (refer Table 7.11) may be discharged at the seabed (when cementing conductor or surface casing) or at surface (when flushing lines or tanks). Cement spacers can be used as part of the cementing process, within the well casing, to assist with cleaning the casing sections prior to cement flowthrough. The spacers may consist of either seawater or a mixture of seawater and dye. The dye is used to provide a pre-indicator of cement overflow to the seabed surface, to ensure adequate cement height.

During cement unit testing, commissioning and cleaning operations, cement (as a slurry) will be discharged to the sea surface from the cement discharge line. Such discharge events would be typically less than 5m³ and may be performed on MODU arrival.


While cementing the 30inch conductor, cement returns will be taken on the seabed. A maximum volume of excess cement slurry which could be discharged at the seabed is 35m³.

While transferring bulk drilling fluid materials and cement, minor solids will be vented to air to prevent tank overpressure.

Unused excess dry bulk cement which is stored in the jack up MODU silo and surplus to requirements of the well will be, where possible, provided to the next operator at the end of the drilling (as it remains on the MODU). If this is not a feasible option, the excess cement will be returned to shore via a support vessel. The volume of cement required for the operation is reasonably well understood and can be predicted fairly accurately; however, it is standard industry practice for additional cement to be made up as contingency.

7.8.2.4 Wellbore Clean-Up Fluids

After drilling, the drilling fluids will need to be cleaned out of the wellbore. During well-cleanup, a cleanout fluids train will be circulated until well cleanliness specifications are met. The cleanout fluids train is circulated back to the jack-up MODU, along with any WBM from within the well, and subsequently discharged. Approximate well-cleanup discharge volumes for new Blacktip development well are shown in Table 3.7 and discharge volumes for Contingent workover operations are covered in Table 3.10. The discharge volumes are predominantly made up of formation water, condensed water and brine, with some residual MEG and methanol. Any water produced during the clean-up (either condensed water or formation water) will be filtered and measured, then discharged if it meets the discharge specification (<30ppm hydrocarbon content). Condensed water discharge is anticipated to be at a temperature of up to 60°C. The discharge rate would be notionally 2 to 3m³ per hour.

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7.8.2.5 Other Bulk Products

Unused excess calcium carbonate (refer Table 7.11 for approximate volume based on similar activities) will be, where reasonably practicable, provided to the next operator at the end of the drilling (as it remains on the jack-up MODU). Figure 7.1 presents the decision framework for managing volumes of calcium carbonate remaining on the jack-up MODU. Eni will not discharge of bentonite/barite or excess cement as a bulk products at the end of drilling. The products will either be passed to the next operator or sent back to shore via vessel.

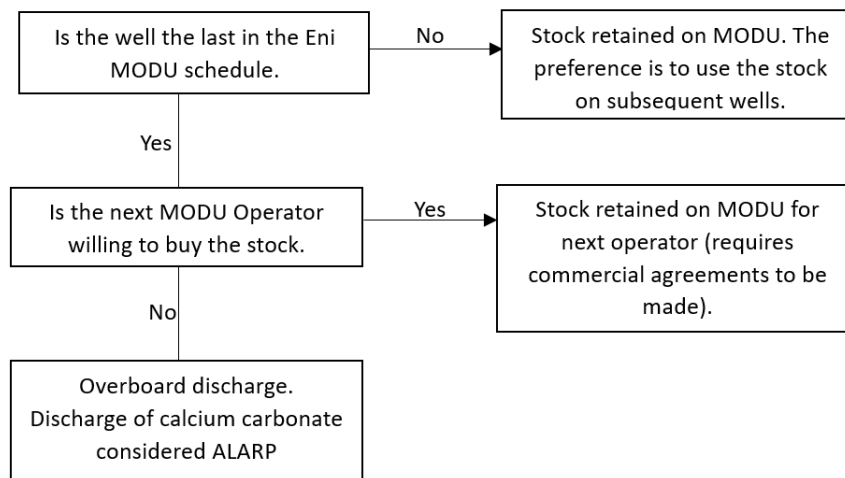


Figure 7.1: Decision framework for managing calcium carbonate at the end of drilling

7.8.3 Potential Environmental Impact


As outlined below, discharge of muds and fluids has potential to impact:

- water quality
- sediment quality and benthic habitat
- local marine fauna.

7.8.3.1 Water Quality

A range of fluids will be discharged during the activity (refer Table 7.11).

Discharges at the water surface or close to sea level will result in a reduction in water quality from an increase in turbidity. The discharge of WBM fluids on cutting is expected to increase turbidity and TSS levels in the water column. Discharge of drill cuttings will be intermittent during the active drilling of the well. Nelson *et al.* (2016) identified less than 10mg/L of TSS as the no-effect or sub-lethal minimal effect concentration. The cuttings dispersion modelling (discussed in Section 7.9.2.2) predicts the concentration of total TSS to remain low and disperse rapidly from the well site. Given the generally low concentration of total TSS, the offshore open ocean environment, in conjunction with rapid dispersion of sediment and the short period of intermittent discharge, the plume is not expected to have more than a very highly localised potential area of ecological impact and it is not predicted to impact productivity of the water column.

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Impacts to marine fauna from suspended sediments and TSS are not expected. While very high concentrations of suspended sediments have been shown to result in mortality of pelagic animals (more than 1830mg/L), such concentrations do not occur as a result of drill cuttings discharges (International Oil & Gas Producers Association (IOGP), 2016). Given the opportunity for cuttings to disperse in the water column when discharged near the sea surface, the potential for smothering of pelagic fauna is greatly reduced. Fish are likely to swim away when elevated TSS concentrations are detected, while marine mammals and turtles are not expected to come into direct contact with the plume, given its proximity to the jack-up MODU.

WBM is a drilling fluid in which water or brine is the major liquid phase as well as the wetting (external) phase. Apart from water or brine, WBM is made up of drilling fluid additives that are typically completely inert in the marine environment, naturally occurring benign minerals, readily biodegradable organic polymers with a fast rate of biodegradation in the marine environment, or products in low concentrations with a very low potential for environmental impact. Bentonite sweeps or barite, typically used as weighting agents in the WBM, have very low toxicities and are considered by OSPAR to pose little or no risk to the environment. Given the rapid dispersion of WBM when discharged, toxic impacts to species within the water column are not anticipated.


Unused calcium carbonate (refer Table 7.11 for approximate volume based on similar activities) may be discharged to the marine environment. Given this product is a naturally occurring benign mineral and readily biodegradable, toxic impacts to species within the water column are not anticipated. The product may disperse over a wide area of seabed without presenting smothering or toxic impacts to benthic habitats.

Toxic impacts from the oil content in well-cleanup is expected to be localised after treatment to <30ppm. Given the short period of discharge (up to 96 hours per well) and the dispersive offshore marine environment, any toxic effects that might potentially occur would likely be restricted to small organisms such as plankton, larvae and potentially small fish that become entrained in discharged water. Discharges of produced water from facilities (a discharge more than that of a well-cleanup, but of a similar oil in water content) show changes in water quality above Australian and New Zealand Guidelines (2018) water quality values are highly localised (e.g. Førlin & Hylland, 2006. King *et al.*, 2011).

Given the quantities of drilling discharges, the low toxicity of WBM and cement and high dispersion in the open, offshore environment, any impact on the marine environment from the discharges are expected to be minor and temporary. Recovery of water quality conditions is expected within hours after the cessation of drilling. For impact to sediment quality, refer to Section 7.9.

7.8.3.2 Marine Mammals

The Operational Area is 430km from the pygmy blue whale migration BIA and 370km from the humpback nursing BIA (Table 4.5). There is low likelihood of encountering these cetaceans and those within the Operational Area would be transiting only. Impact to these species would be slight and temporary and relate to temporary behavioural change (e.g., avoidance) if they were to come very close to the discharge.

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7.8.3.3 Marine Turtles


The Operational Area overlaps with the BIA for green turtles (foraging) and olive ridley turtles (foraging) and a BIA for flatback turtles (internesting) is 8km from the Operational Area (Table 4.5). However, it is expected these species will be transiting or foraging for short periods only and are not likely to be resident or occur in the Operational Area in significant numbers, given the distance from shore and nesting beaches. The EP appropriately details the impacts to the species from the Blacktip drilling activities and appropriate controls have been adopted in Section 7.8.4.

Drilling muds and fluids discharge has not been identified as a threat in any recovery plans or conservation advice for Threatened and Migratory species. However, Eni has considered information contained in relevant recovery plans and approved conservation advice for cetaceans and marine turtles that identify chemical discharges and pollution as a threat (as listed in Table 2.4). Chemical and terrestrial discharge is identified as potential threats to marine turtles in the Recovery Plan for Marine Turtles in Australia (Commonwealth of Australia, 2017b). Given the nature of the discharges associated with the Blacktip drilling activities and low likelihood of sensitive receptors within the Operational Area, the potential impacts are considered to be slight. Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice.

7.8.3.4 Commercial Fisheries

Several Commonwealth, Western Australian and Northern Territory managed fisheries, may be active in the area surrounding the Operational Area (Section 4.6.1). The NPF previously raised concern over impacts on the prawn stock and commercial fishing operations (for drilling of a third development well, during previous consultation efforts on Blacktip petroleum activities). During 2023 consultation, the DITT / NT Fisheries requested that where possible, drilling is undertaken during warmer months (September-March) to avoid fish spawning season.

As described above, there may be elevated levels of TSS in the water column which will be intermittent during the active drilling of the development well. However, the impacts to marine fauna (including prawn) are likely to be short-lived and behavioural only. In addition, the cuttings dispersion modelling (discussed in Section 7.9.2.2) predicts the concentration of TSS to remain low and disperse rapidly from the well site; therefore, any impacts are highly restricted. Impacts to the northern prawn stock are not anticipated, given the low toxicity, low TSS concentration and rapid dispersion of WBM and associated cuttings.

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7.8.3.5 Sediment Quality and Benthic Habitat


WBM is a drilling fluid in which water or brine is the major liquid phase as well as the wetting (external) phase. Apart from water or brine, WBM is made up of drilling fluid additives that are either completely inert in the marine environment, naturally occurring benign minerals, readily biodegradable organic polymers with a fast rate of biodegradation in the marine environment, or products in low concentrations with a very low potential for environmental impact. Bentonite sweeps or barite are typically used, as weighting agents in the WBM have very low toxicities and are considered by OSPAR to pose little or no risk to the environment. They may, however, cause physical damage to benthic organisms by abrasion or clogging, or through changes in sediment texture that can inhibit the settlement of planktonic polychaete and mollusc larvae (Hinwood *et al.*, 1994). Impacts are not expected to be significant due to the rapid biodegradation and dispersion of WBM and no significant habitats and biota or sensitive receptors are considered to be present in the Operational Area over the area contacted by WBM cuttings (refer to Section 7.9).

Components of WBM with potential toxicity to marine flora and fauna include metals associated with inorganic salt components, organic polymers and additional organic additives as well as barite and bentonite weighting agents. Metals present in WBM drilling fluid generally resemble that of marine sediments, albeit with concentrations of some metals higher than clean marine sediments (Neff, 2005). Metals associated with WBM drill cuttings have been shown to have a low bioavailability, as they tend to remain in a non-ionic form, remaining bound to other compounds, and present a low toxicity risk to marine fauna (Neff, 2005). In general, the acute toxicity of WBM is low (Neff, 2005).

Cement discharge impacts to the marine environment are associated with smothering of benthic and infauna communities in the vicinity of the well. Cement is the most common material currently used in artificial reefs around the world (OSPAR, 2010) and is not expected to pose any toxicological impacts to benthic and infauna from leaching or direct contact. In addition, cementing additives/spacers will be assessed in accordance with the chemical risk assessment (see Section 3.12). Typical cements contain <0.05ppm of mercury.

Ecological impacts from mud and cement discharge are not expected for mobile benthic fauna such as crabs and shrimps or pelagic and demersal fish, given their mobility (IOGP, 2016). Balcom *et al.* (2012) concluded that impacts associated with the discharge of cuttings and fluids are minimal, with impacts highly localised to the area of the discharge. For further impacts on benthic fauna from cuttings discharge, refer to Section 7.9.

The discharge of drill cuttings, in addition to those from previous Blacktip drilling may result in cumulative impacts. The benthic habitats and communities that may be impacted by the discharge of drill cuttings and fluids are widely represented in the region and not of high conservation value. Cumulative impacts from the discharge of drilling cuttings discharged during the drilling and workover are unlikely.

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7.8.4 Environmental Performance Outcomes and Control Measures

EPOs relating to this risk include:

- no impact to water quality or marine biota greater than a severity level of 2 from discharge of drilling cuttings or fluids (EPO-10).


CMs relating to this risk include:

- Eliminate discharge of excess barite/bentonite and cement at the end of drilling by returning product to shore or passing the product to other operators (CM-12)
- chemical risk assessment process (CM-13)
- well-cleanup fluids management (CM-14).


EPSs and MC relating to the above are presented in Section 9.

7.8.5 As Low as Reasonably Practicable Demonstration


Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Eliminate the use of drilling fluids and muds	Drilling fluids and muds are technically required to drill the well and cannot be eliminated. The chemical risk assessment process will ensure any new chemicals are assessed before use in accordance with the procedure to reduce impact to ALARP and acceptable.	×
	Store fluids and muds on MODU and vessels for onshore processing	Storage of low-toxicity drilling discharges onboard the MODU and vessels and transportation to shore is considered to be impractical due to the high volume and number of vessels that would be required to provide ship-to-shore services. Additional energy use and emissions associated with onshore transport and treatment would also be introduced, as well as potential impact on the ultimate receiving terrestrial environment. Therefore, there is no net environmental benefit of transfer for onshore disposal. It also provides an increased exposure to biological health hazards, and safety hazards such as bulk transfer and heavy lifting operations.	×

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Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
	Eliminate discharge of excess barite/bentonite and cement at the end of drilling by returning product to shore or passing the product to other operators	<p>The design of the piping and the tanks on the MODU are not designed for the reverse pumping of the cement and barite / bentonite products back to marine vessels to return the product to shore. However through some operational changes the practice is possible. The process may be problematic operationally due to handling and cleaning of vessel P-tanks involving confined space entry and safety risks. On the shore side the systems are not currently designed to receive the bulks back from vessels with much greater pressurised systems.</p> <p>Eni has safety concerns on enacting this practice when viewing the whole supply chain involved in returning excess bulks from the rig to vessels to port to trucks and ultimately to landfill, where there is minimal if any environmental benefit hence grossly disproportionate to the additional activity and emissions.</p> <p>Moreover the Barite mercury content has been checked with the provider as being undetectable in what is a naturally occurring mineral product.</p> <p>In the first instance the bulk cement and barite / bentonite products at the end of drilling will be passed to the next operator and if that cannot be achieved the products will be returned to shore providing always that safety risks in handling the bulks are managed to ALARP and are tolerable. Calcium carbonate as a bulk product is managed in accordance with Figure 7.1 The product is a naturally occurring inert material.</p>	<p>✓ (CM-12)</p>
	No well-cleanup	Well clean up and testing is required for well performance, and safe management of the reservoir. While eliminating will reduce quantities of contaminants (i.e., oily-water) entering the marine environment, it is not feasible to eliminate the discharge.	✗


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Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
	Timing drilling where possible to avoid fish spawning season during warmer months (September-March)	During 2023 consultation, the DITT / NT Fisheries requested that where possible, drilling is undertaken during warmer months (September-March) to avoid fish spawning season. The timing of the Blacktip drilling activities is subject to vessel and MODU availability in the region as well as weather conditions; and given the nature of the work, it is not feasible to commit to limiting work to specific periods of the year. The potential impact to commercial fish species and fisheries from the drilling activity is assessed in relevant sections in Section 7 and 8; and is considered acceptable and reduced to ALARP.	*
Substitute	Substitute out high-toxicity chemicals where possible	The chemical risk assessment process will ensure any impact from chemical discharge is ALARP and acceptable. See Section 3.12.	✓ (CM-13)
Engineering	N/A	N/A.	N/A
Isolation	N/A	N/A.	N/A
Administrative	Selection of chemicals to reduce impact to ALARP and acceptable	The chemical risk assessment process will ensure any new chemicals are assessed before use in accordance with the procedure to reduce impact to ALARP and acceptable. See Section 3.12.	✓ (CM-13)
	Well-cleanup fluids management	Well-cleanup fluids management includes a limit set on the hydrocarbon content of the discharged well-cleanup fluids. Environmental benefit outweighs costs of the filtration system required to ensure well-cleanup fluids are appropriately managed and that hydrocarbon content in formation water, if produced, is <30ppm.	✓ (CM-14)
	Further reduce the hydrocarbon content limit for well-cleanup fluids	Given the already slight impact from the discharge of well-cleanup fluids, which are discharged for a short period only, reducing the content further will have a negligible benefit to the marine environment. The higher safety risks and costs associated with additional water treatment (e.g., additional space required for additional treatment units) are considered grossly disproportionate to the negligible environmental benefit of further reducing oil in water content to <30ppm.	*

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7.8.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws, and Standards	<p>Eni chemical assessment process. See Section 3.12.</p> <p>The activity complies with EPBC approval conditions (EPBC 2003/1180) condition #2b 'The plan must address managing the collection, handling and disposal of NORMS that may occur':</p> <ul style="list-style-type: none"> To date, Eni has only detected very low levels of radiation in pigging waste (collected at YGP). The Blacktip Waste Management Plan for YGP includes NORMS disposal in the event it is required at YGP. NORMS management is not required for Blacktip drilling activities as no radiation is expected. <p>The activity complies with EPBC approval conditions (EPBC 2003/1180) condition #2d 'The plan must address the use and disposal of drilling muds, including monitoring of water quality, in the event that low-toxicity, water-based drilling fluid additives cannot be used':</p> <ul style="list-style-type: none"> Low-toxicity, water-based drilling fluid additives will be used for drilling the development well. Further information about the drilling fluids is contained in Section 7.8.2.1. <p>The activities consider the Minamata Convention on Mercury 2013. Bentonite or barite or cement which have potential to contain trace mercury are not discharged as a bulk product at the end of drilling.</p>
Policy Compliance	<p>The management of drill cuttings is aligned with Eni policies and standards. The residual risk is Low, which is acceptable.</p> <p>The EPOs, CMs and EPSs that will be implemented are consistent with Eni internal requirements.</p>
Social Acceptability	<p>Stakeholder consultation has been undertaken (refer Section 5).</p> <p>NPF in the past (previous consultation efforts on Blacktip petroleum activities) raised concern over drilling impacts on the prawn stock and commercial fishing operations. This has not been raised on 2023 consultation. Impacts to prawn stocks are not considered significant, will be short-lived and restricted to the behaviour of a small number of the overall population.</p> <p>The DITT / NT Fisheries raised concerns about the timing of the activity; requesting where possible drilling avoid the warmer months during fish spawning season (September-March). The timing of the Blacktip drilling activities is subject to vessel and MODU availability in the region as well as weather conditions; and given the nature of the work, it is not feasible to commit to limiting work to specific periods of the year. This additional control was assessed as part of the ALARP evaluation, and not adopted.</p> <p>The Balangarra Ventures Ltd Balangarra Aboriginal Corporation RNTBC raised concern on the impact of sediments to marine life during drilling. Eni clarified that only water-based mud would be used during drilling; and only the top layer of sediment on the seabed would be disturbed.</p> <p>A consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>

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Demonstration of acceptability	
Area Sensitivity/ Biodiversity	<p>Drilling fluids and mud discharge has not been identified as a threat in any recovery plans or conservation advice for Threatened and Migratory species. However, Eni has considered information contained in relevant recovery plans and approved conservation advice for cetaceans and marine turtles that identify chemical discharges and pollution as a threat (as listed in Table 2.4). Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice. The evaluation of impacts and risks indicates significant impacts to MNES will not result from the discharges.</p> <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9). Drilling fluids and mud discharge will not reach the AMP.</p>
ESD Principles	<p>The activity is consistent with the principles of ESD because:</p> <ul style="list-style-type: none"> the impacts associated with drilling fluids and mud discharge do not result in 'threats of serious or irreversible harm' as detailed within the EPBC Act and biodiversity and ecological integrity will be maintained there are no identified health, diversity or productivity impacts that may affect the biodiversity or ecological function for future generations.
ALARP	The residual risk has been demonstrated to be ALARP.


Given the short duration of the Blacktip drilling activities (refer Table 3.1), the low volume of discharge from the jack-up MODU and receptors in the Operational Area, the potential impacts associated with drilling mud and fluid discharge are considered to be minor. Controls have been evaluated above and adopted in accordance with the ALARP criteria (Section 6.3). The residual risk is considered to be low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Therefore, the potential impacts are acceptable and ALARP.

7.9 Seabed Disturbance (Risk ID P9)

7.9.1 Summary of Environmental Risk Assessment

Hazard	Seabed Disturbance – Disturbance from Cuttings		
	Likelihood	Severity	Risk
Inherent Risk	B	1	L
Residual Risk	A	1	L

Hazard	Seabed Disturbance – Placement of MODU Legs		
	Likelihood	Severity	Risk
Inherent Risk	B	1	L
Residual Risk	A	1	L

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7.9.2 Description of Hazard

During the Blacktip drilling activities, seabed disturbance is anticipated from:

- disturbance from drillings cuttings depositing on the seabed (total area of approximately 5km² based on an impact threshold of 10.0g/m²)
- placement of MODU legs on the seabed in the vicinity of the WHP (total area of 762ft²) (including jetting leg system).


Impacts from the chemicals and fluids within the cuttings discharge have been assessed in Section 7.8.

7.9.2.1 Drill Cuttings

Drill cuttings are the extracts of sedimentary layers that emerge from the drilling process and will range from very fine (0.016 mm) to coarse sizes (less than 1 cm). A total of 850m³ of drill cuttings is anticipated from the drilling of the new development well and the contingent workover operations (refer Table 3.6 and Table 3.9). Cutting discharge volumes are calculated based on hole size and interval length for the well. The total volume of drilling fluid and drill cuttings is an estimate based on previous drilling and completion programs in the Blacktip field. In the case of an unplanned event (such as re-spud, side tracking and interval length change), or change to the drilling or completion program, the total volume of fluids or drill cuttings will be comparable.

A 36-inch top hole will be drilled with seawater and pre-hydrated bentonite sweeps with cutting returns to the seabed. After installing 30-inch conductor, all sections of the well are planned to be drilled with a riser in place. With the riser in place, the drilling muds and drill cuttings are returned to the MODU. Once on the jack-up MODU, cuttings are separated from the WBM drilling fluids by the SCE. The SCE uses shale shakers to remove coarse cuttings from the drilling fluids. After processing by the shale shakers, the recovered fluids from the cuttings may be directed to centrifuges, which are used to remove fine solids (approximately 4.5 to 6 µm). The cuttings with retained residual fluids are then discharged below the water line, so as not to impact sea surface. Cuttings will typically deposit in the vicinity of the well site (confirmed in modelling, presented below), while the retained fluids (as referred to in Section 3.8) attached to fine cutting will disperse further, temporarily elevating TSS and sediment deposition. Cuttings modelling has been undertaken and a summary is presented in Section 7.9.2.2.

The requirement to re-spud a well is a low likelihood; however, if performed, could result in additional cuttings discharge in line with those presented in Table 3.6.

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7.9.2.2 Cuttings Modelling

RPS was commissioned to complete a sediment dispersion modelling study of 295m³ of discharged cuttings and fluids during drilling at the WHP (RPS, 2019a). The principal aim of the study was to calculate the fate of discharged drill cuttings and unrecoverable drilling muds, quantify the likely area of coverage and levels of suspended sediments and bottom deposition (thickness and accumulated load), and assess the risk to sensitive receptors of contact from cuttings and muds discharged during the operation. While the new Blacktip development well and the contingent workover operation has a total of 850m³ of drill cuttings, which is in excess of that modelled by RPS, the outcome of the modelling is still useful to understand the extent of the drill cuttings and the results have been used to estimate the fate of an 850m³ discharge.

A stochastic modelling approach was followed to assess drill cuttings and fluids discharge, with 75 replicate simulations performed over the annual period (25 per season). The results of all replicate simulations for each season – summer (December to February), winter (April to August) and transitional months (March and September to November) – were combined and statistically analysed to develop the distribution of outcomes based on time and event.

The model can track and predict sediment concentrations and thickness to very low levels that may not be of practical and ecological significance; therefore, a series of minimum detectable levels and impact thresholds were defined for reporting the model-predicted outcomes.


Table 7.12 presents a summary of the detectable levels and impact threshold levels used in this study.

Table 7.12: Detectable levels and impact threshold levels for assessment of sediment water column concentration, bottom thickness and sedimentation

Parameter	Detectable level*	Impact threshold level
Water column concentration (TSS)	0.3mg/L	1.0mg/L
Bottom thickness	0.001mm	3.0mm
Sedimentation	1.0g/m ² (bottom concentration)	10.0g/m ² /day (sedimentation rate)

*Detectable levels used in this study were based on external advice provided to RPS by Dr P. Ridd of James Cook University (JCU). Source: Ridd, 2015.

A minimum TSS concentration of 0.3mg/L is intended to represent the minimum measurable concentration of TSS in the water column. This detectable level is expected to be well below levels that result in a visible plume, which is generally 2 to 3mg/L above background in regions with low naturally TSS concentrations. A value of 1.0mg/L TSS concentration was defined as the impact threshold level.

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A minimum sedimentation concentration of 1.0g/m² was defined, which equates to approximately 0.001mm bottom thickness. This detectable level is typically considered conservative and is expected to be far less than natural sedimentation rates. Therefore, the impact threshold level for sedimentation is expressed as a daily rate of mass per area and set at 10.0g/m² per day. The impact threshold level for bottom thickness was defined as 3.0mm.

The outcomes of the modelling assessment are summarised in Table 7.13.


A maximum sediment bottom thickness (or height of sediment mound) of 120.3mm is predicted in the vicinity of the proposed well site. The maximum distance from the well location at which thicknesses greater than or equal to 3.0mm occur is predicted to be approximately 0.09km. The maximum distance from the well location at which concentrations greater than or equal to 10.0g/m² occur is predicted to be approximately 4.62km. Sediment bottom concentration at 1.0g/m² occur at a maximum distance of 11.61km from the well location.

No sensitive receptors (KEFs, Marine Parks) are reached at impact thresholds concentrations.

The modelling predicts the greatest distance any sediment is expected to disperse and settle on the seabed at impact threshold levels is 4.62km (maximum area of impact 5.24km²) from a 295m³ cuttings discharge. The closest KEF is 18km from the Operational Area and the closest AMP is 50km from the drill site. Given these distances, these sensitive features will not be impacted from drill cuttings discharge.

Table 7.13: Predicted maximum distance (across all seasons) to detectable and impact threshold exceedance (RPS, 2019a)

Variable	Description	Threshold	Maximum distance (km) or area of coverage (km ²)
Water Column TSS Concentration	Maximum distance (km) from source at concentration ≥	0.3mg/L	1.14
		1.0mg/L	0.44
	Area of coverage (km ²) at concentration ≥	0.3mg/L	0.35
		1.0mg/L	0.07
Bottom Thickness	Maximum distance (km) from source at thickness ≥	0.001mm	8.14
		3.0mm	0.09
	Area of coverage (km ²) at thickness ≥	0.001mm	24.13
		3.0mm	0.005
Bottom Concentration	Maximum distance (km) from source at concentration ≥	1.0g/m ²	11.61
		10.0g/m ²	4.62
	Area of coverage (km ²) at concentration ≥	1.0g/m ²	65.57
		10.0g/m ²	5.24
Sedimentation Rate	Maximum distance (km) from source at sedimentation ≥	10.0g/m ² /d	1.46
		100.0g/m ² /d	0.31
	Area of coverage (km ²) at sedimentation ≥	10.0g/m ² /d	0.52
		100.0g/m ² /d	0.05

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7.9.2.3 Mobile Offshore Drilling Unit Placement

The jack-up MODU will be towed to a position next to the Blacktip WHP by up to three support vessels. The jack-up MODU jacks up above sea level via the placement of spud cans positioned on the seabed. The placement of the jack-up MODU's spud cans will result in physical disturbance of the sea floor. Once above the height of the Blacktip WHP, the jack-up MODU will then be cantilevered over the Blacktip WHP.

The seabed disturbance from spud cans will be within an area of seabed previously disturbed around the WHP, and impact may be contained within the footprint of the jack-up MODU's legs from previous drilling campaign at the site. The seabed will be surveyed prior to positioning the drill MODU to verify any seabed features or hazards. Impact will be limited to three spud cans on the jack-up MODU, each impacting 254 ft² of seabed directly. Once drilling has occurred, the legs will be jacked down and the jack-up MODU will be towed off location. A jetting system will be used to free the jack-up legs during demobilisation and prior to the MODU being jacked down and demobilised. During this period, there is an increase in sediment disturbance and turbidity as water is pumped down the legs to the seabed.

7.9.2.4 Remotely Operated Vehicle Use

During ROV campaigns, there may be instances where placement on the seafloor is required. The ROV has potential to impact an area of 4.25m² when stationed on the seafloor.

7.9.3 Potential Environmental Impact


As outlined below, discharge of cuttings may lead to the impacts on the seabed of:

- smothering of benthic fauna
- decrease in sediment quality
- cuttings pile legacy impacts.

Impacts from the drilling fluids on cuttings have been assessed in Section 7.8.

Smothering

The effects of drilling discharges on the benthic environment are related to the total mass of drilling solids and drilling fluids discharged, the relative energy of the water column, and benthic habitat at the discharge location (Neff, 2005). The effects of drilling fluids and cuttings piles on seabed communities are caused mainly by burial (smothering) and low sediment oxygen concentrations caused by organic enrichment (Neff, 2005). With increasing thickness of drill cuttings, the number of taxa, abundance, biomass and diversity of macrofauna have been found to significantly reduce (Tranum *et al.*, 2010).

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Organic enrichment as a result of WBM drilling cuttings discharge increases bacterial activity. A mild enrichment often sees an increase in both the abundance and diversity of the benthic community in the area of discharge. As more organic enrichment occurs, the seafloor bacteria colonies consume more and more of the oxygen in the sediment, resulting in anoxic conditions. In a highly organic-enriched area, the sediment can become anaerobic and both the abundance and diversity of species is much lower than normal (IOGP, 2021).


The benthic fauna and seabed at the WHP are widely represented on the JBG and previous surveys at the WHP have not indicated any sensitive habitats. The drilling location is over the Infaunal Plains habitat, which presents a total area of 93,524km² of the gulf. A discharge of cuttings will impact a total area of 5 to 7km² (based on impact thresholds presented in Table 7.13). The potential impact from the cuttings is therefore less than 0.006% of the Infaunal Plains habitat.

Placement of the jack-up MODU's legs will impact a total area of 762m² of seabed directly. The impact from placing the rig is therefore less than 0.001% of the Infaunal Plains habitat. Placing of the ROV on the seafloor will impact a significantly smaller percentage of the Infaunal Plains habitat. When the jack-up MODU is demobilised, there will be increased seabed disturbance and turbidity at the MODU leg, which may add a minor additional adjacent area of disturbance directly over the jack-up legs. Local turbidity in the water column resulting from the jack-up jetting system will result in smothering of the benthic environment as the sediment settles on the seabed. Due to the localised area of disturbance, any impacted benthic communities are expected to rapidly recolonise. While the jetting system will increase turbidity in the water column for a short period (approximately one hour per leg), it will be highly localised and will not result in any impact other than behavioural to marine fauna highly local to the jack-up legs.

Potential impacts from cuttings discharge are not considered significant at an ecosystem level, given the resultant cuttings mound on the seafloor would only occur directly adjacent to the well location where sediment thickness is greatest. Sediment bottom concentration at 1.0g/m² occurs at a maximum distance of 11.61km from the well location. A feature of the Sahul Shelf KEF is located 25km to the south-west of the WHP (drilling location) and will therefore not receive cuttings at 1.0g/m² sediment bottom concentration (detectable levels). The Joseph Bonaparte Gulf AMP is approximately 45km to the east and 55km to the south of the area which receives 1.0g/m² sediment bottom concentration and will therefore not be impacted.

No sensitive receptors (KEFs, Marine Parks) are reached at impact thresholds concentrations (RPS, 2019a).

It is not anticipated the area around the WHP will provide spawning grounds for mackerel, given their preference for spawning in oceanic conditions on reef edges and areas or demersal species which are also more associated with reef habitat. Therefore, impact to spawning of these species is not anticipated from the seabed disturbance or disposal of cuttings.

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Due to the localised area of disturbance, impacted benthic communities are expected to rapidly recolonise any disturbed areas upon completion of the activities. Overall, impacts from smothering would likely be temporary and slight, with rapid recolonisation of benthic infauna within the cuttings layer, given the low toxicity of the material. Surveys of previous seabed disturbances from drilling activities indicate recovery of benthic fauna in soft sediment substrates occurs within 6 to 12 months of cessation of drilling (Currie & Isaacs, 2005).

Decrease in Sediment Quality

A WBM drilling cuttings pile is effectively made up of:


- a rock fraction (the cuttings)
- WBM, including:
 - a weighting agent (barite or bentonite)
 - a liquid fraction (the liquid components of the drilling fluids).

Drill cuttings accumulation on seafloor sediments can cause changes in the physical properties and chemical composition of the seabed sediments. These include increased concentrations of organic material, a change in the appearance of the sediment surface, increased sediment grain size and increased concentrations of metals (relating to weighting agent use).

Barite and bentonite are one of the main constituents used in WBM, and its use results in elevated levels of barium in cuttings. Other chemicals of concern in cuttings, either because of their potential toxicity or abundance in WBM, are arsenic (As), chromium (Cr), cadmium (Cd), copper (Cu), iron (Fe), lead (Pb), mercury (Hg), nickel (Ni) and zinc (Zn) (Breuer *et al.*, 2004).

The sediments affected by cuttings discharges have frequently shown elevated concentrations of barium from barite and potentially toxic metals such as Pb, Hg and Cd from barite impurities. Adverse effects from this heavy metal load on benthic communities have frequently been documented for affected areas in the North Sea (Wegeberg & Gustavson, 2019).

Total concentrations of mercury and methylmercury in nearfield and far-field sediments to offshore drilling sites in the Gulf of Mexico were published by Trefry *et al.* (2008). Total mercury levels at the near-field sites were in general high, within the range of 25 to 558 ppb, whereas total mercury levels at the far-field sites were distinctly lower, ranging between 11 and 92 ppb. Furthermore, a strong correlation between barium and total mercury concentrations in the sediments was demonstrated, which confirmed that barite from drilling mud was most probably the main source of the mercury contamination in nearfield sediment. Methylated mercury is strongly bioaccumulated and biomagnified in infauna. However, mercury bound to barite is not expected to be released and methylate readily (Neff, 2008; Trefry *et al.*, 2008). The solubility of barium sulfate in water is considered to be low, and because of the high concentrations of sulfate in marine environments, the concentrations of dissolved barium ions also is expected to be low (Wegeberg & Gustavson, 2019).

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Dissolved barium and any heavy metal contaminants present in the barite may slowly leach out of an anoxic cuttings pile (Neff, 2005). Breuer *et al.* (2008) has also overserved that metals in cuttings migrate either upward to the overlying water (Ba, Mn and Fe) or diffuse downward (Cr, Cu and Pb), where they become incorporated into Fe monosulfides. The exposure of these Fe monosulfides to oxygen as a result of transporting oxygen into the cuttings via bioturbation or advection or pile resuspension may then lead to the release of the associated metals into the water column (Saulnier and Mucci, 2000; Huerta-Diaz *et al.*, 1998).

In a stable cuttings pile with little physical disturbance or bioturbation, it is probable the fraction of the total cuttings pile metals that is in the dissolved, bioavailable fraction remains low. It is probable some dissolved metals diffuse into the overlying water column and escape from the pile, as identified by Neff (2005). However, this efflux is not sufficient to raise the concentration of metals above natural background levels to an ecologically significant extent (Hartley *et al.*, 2003). There is no indication the levels of trace metals in fish and shellfish collected close to offshore installations are significantly above natural background concentrations (Bakke *et al.*, 2013).


Marine fauna that are exposed in the laboratory or field to cuttings in sediments do not bioaccumulate significant quantities of metals (Hartley *et al.*, 2003). There is some evidence of a limited bioavailability of a few metals, such as Pb and Zn, which are present in cuttings piles; however, doubt remains that metal bioaccumulation in marine fauna from cuttings piles is sufficient to cause harmful effects in marine fauna living on or near cuttings piles (OSPAR, 2019).

Given the nature of the cuttings discharge, and the nature of the seabed in the vicinity of the Operational Area, the impact from a reduction of sediment quality is expected to be slight.

Cuttings Pile Legacy Impacts

In the event of cuttings pile disturbance (such as future decommissioning results in disturbance), a proportion of a disturbed cuttings pile is likely to resettle on seabed sediment that has not been previously impacted by cuttings. The potential impact this has on benthic communities results from a combination of physical smothering, changes in sediment texture and grain size, oxygen depletion, organic enrichment and direct toxicity from drilling fluids (impacts of which are described in Section 7.8). This can result in a decrease in both the abundance and diversity of benthic fauna (OSPAR, 2019). Resuspension of cuttings piles into the water column as a result of disturbance gives rise to the potential for exposure of marine fauna to contaminants in the cuttings (described in Section 7.8) (OSPAR, 2019).

Modelling of cuttings pile relocation (disturbance and re-deposition) has confirmed potential contamination by metals in the barite are bound to the immediate vicinity of the discharge, and disturbance of cuttings drilled with WBM are not expected to result in any significant impact (OSPAR, 2019). Generally, impacts from disturbed cuttings drilled with WBM are expected to be minor and resemble the impacts from currently consented cuttings discharges, and any concern is more likely to focus on cuttings drilled with non-aqueous drilling fluids (OSPAR, 2019).

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Eni has set controls within Section 6.3 which aim to reduce cuttings' legacy impacts and protect natural resources within WA-33-L. This includes setting limits for contaminants within the barite/bentonite.

Cumulative Cuttings

Impacts to the seabed will occur within a previously disturbed area (drilling previous Blacktip wells). Further discharge of cuttings over the already disturbed cuttings piles are not considered to pose significant impact other than smothering of benthic fauna already present over the area (impacts discussed above). The cuttings on the seabed (and legacy piles) may be thicker local to the WHP; however, due to the localised area of disturbance, impacted benthic communities are expected to rapidly recolonise any disturbed areas upon completion of the activities.

Minamata Convention on Mercury 2013

As referenced in Table 2.7, Australia is a signatory to the Minamata Convention on Mercury. The international treaty seeks to protect the environment from anthropogenic emissions and releases of mercury and mercury compounds. Mercury is associated with the barite and bentonite used as weighting agent in the WBM. The concentration of mercury impurities in barite varies with geographical origin; however, the discharge of mercury to the environment can be minimised by using barite and bentonite with low concentrations of mercury. Eni has put a limit on the contaminants in barite and bentonite (refer Section 6.3), based on the limit set by US EPA (2004). Selecting barite and bentonite with low contaminants aims to minimise the potential transfer of mercury from drilling mud to the environment and bioaccumulation potential.

7.9.4 Environmental Performance Outcomes and Control Measures


EPOs relating to this risk include:

- seabed disturbance limited to planned activities (EPO-11).

CMs relating to this risk include:


- solids control equipment (CM-15)
- cuttings discharged below the water line (CM-16)
- quality control for barite and bentonite (CM-17).

EPSs and MC relating to the above are presented in Section 9.


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7.9.5 As Low as Reasonably Practicable Demonstration

Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Eliminate the use of the MODU	Use of the MODU is required for the drilling activity to be completed.	*
	Eliminate cuttings discharge	The generation of cuttings cannot be eliminated if the well is to be drilled. Storage of cuttings onboard the MODU/ vessels and transportation to shore is considered to be impractical due to the high volume and number of vessels that would be required to provide ship-to-shore services. Shipping cuttings to shore using vessels will result in increased fuel usage, increased safety risks to personnel during transfer, and increased crane movements.	*
Substitute	Use a semi-submersible MODU with no anchoring requirements	The use of a semi-submersible which does not anchor would remove the impact to seabed from the MODU use. However, the WHP is designed to allow a jack-up MODU to be cantilevered over the WHP. The use of a semi-submersible MODU is therefore not appropriate.	*
Engineering	Cuttings injection	Cuttings reinjection into formation is not feasible due to no concurrent drilling planned or well to re-inject into.	*
	Do not use a jetting system to demobilise the jack-up	The jetting system is required to assist freeing the legs of the jack-up MODU. Without use of the system, there may be significant difficulties and additional seabed disturbance trying to free the legs using other methods.	*
	Solids control equipment, allowing reuse of mud, where possible, prior to discharge	SCE will aim to recapture the WBM where possible, so it can be used on the next section of well. This will reduce the fluids on the cuttings and lower fluids discharge to the marine environment. Costs of equipment outweigh the environmental benefits and WBM can be reused, reducing project costs also.	✓ (CM-15)
	Cuttings are discharged below the water line	Reduces the spread of cuttings on the sea surface and therefore the disturbance area. The MODU is designed so cuttings are discharged below the water line (approximately 10m below); therefore, minor or no cost involved.	✓ (CM-16)

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Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
	Use of WBM only	<p>WBMs have been selected for the well, rather than non-water-based mud which presents increased toxicity risks to the marine environment when discharged with the cuttings.</p> <p>The well has been designed to be drilled with WBM; therefore, no additional cost to adopt.</p>	N/A
Isolation	Not applicable	N/A.	N/A
Admin	Bulk operational (cuttings) discharge is monitored	<p>Monitoring can be used to verify cuttings discharge is in accordance with modelling. However, the high cost involved in monitoring cuttings outweighs the benefits. Cuttings bottom concentration at 1.0g/m² is predicted to occur at a maximum distance of 11.61km from the well location and not come into contact with any sensitive features, the nearest being Sahul Shelf KEF, located 25km to the south-west of the WHP (drilling location). Given low sensitivity of the seabed over the cuttings deposition area and the distance from the Sahul Shelf KEF, monitoring has been determined to provide no environmental benefit.</p>	*
	Quality control for barite and bentonite	<p>Contaminant limit concentrations in barite and bentonite:</p> <ul style="list-style-type: none"> mercury (Hg) – 1mg/kg dry weight in stock cadmium (Cd) – 3mg/kg dry weight in stock. <p>Puts a limit on the contaminants based on the limit set by US EPA (2004). Selecting barite and bentonite with low contaminants aims to minimise the potential transfer of mercury from drilling mud to the environment and the food web. Also reducing sediment contamination as a result of cuttings discharge or any future cuttings disturbance.</p> <p>Aims to ensure Eni protects the natural resources in the permit area and minimises any legacy cuttings contamination.</p> <p>Low cost associated with ensuring the barite and bentonite selected for drilling meets the contaminant limits.</p>	✓ (CM-17)

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7.9.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	<p>Blacktip drilling activities are compliant with the EPBC approval conditions (EPBC 2003/1180).</p> <p>Discharge of cutting and limit of barite and bentonite considers the Minamata Convention on Mercury 2013.</p>
Policy Compliance	<p>The management of drill cuttings is aligned with Eni policies and standards. The residual risk is Low, which is acceptable.</p> <p>The EPOs, CMs and EPSs that will be implemented are consistent with Eni internal requirements.</p>
Social Acceptability	<p>Stakeholder consultation has been undertaken (refer Section 5).</p> <p>NPF in the past raised concern over drilling impacts on the prawn stock and commercial fishing operations. Impacts to prawn stocks are not considered significant, will be short-lived and restricted to the behaviour of a small number of the overall population.</p> <p>An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>
Area Sensitivity/ Biodiversity	<p>Drilling cuttings discharge has not been identified as a threat in any recovery plans or conservation advice for Threatened and Migratory species. However, Eni has considered information contained in relevant recovery plans and approved conservation advice for cetaceans and marine turtles that identify chemical discharges and pollution as a threat (as listed in Table 2.4). Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice.</p> <p>The evaluation of impacts and risks indicates significant impacts to MNES will not result from the discharges.</p> <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9). Drilling fluids and mud discharge will not reach the AMP.</p>
ESD Principles	<p>The activity is consistent with the principles of ESD because:</p> <ul style="list-style-type: none"> • the impacts associated with cuttings discharge do not result in 'threats of serious or irreversible harm' as detailed within the EPBC Act and biodiversity and ecological integrity will be maintained • there are no identified health, diversity or productivity impacts that may affect the biodiversity or ecological function for future generations • conservative assumptions have been applied to the drilling cuttings modelling and assessment.
ALARP	The residual risk has been demonstrated to be ALARP.

Given the limited seabed disturbance from the cuttings (approximately 5km²) and placement of the jack-up legs (762 m²), which disturbs less than 0.007% of the Infaunal Plains habitat in the JBG, the potential impacts associated with seabed disturbance are considered to be slight. The residual risk is considered low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Potential impacts associated with seabed disturbance are acceptable and ALARP.

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8 ENVIRONMENTAL RISK ASSESSMENT – UNPLANNED EVENTS

8.1 Loss of Solid Wastes (Risk ID U1)

8.1.1 Summary of Environmental Impact

Hazard	Loss of Solid Waste		
	Likelihood	Severity	Risk
Inherent Risk	B	2	L
Residual Risk	A	2	L

8.1.2 Description of Hazard

Solid waste materials with the potential to be accidentally lost to the marine environment include:


1. non-hazardous solid wastes, such as paper, plastics and packaging
2. hazardous solid wastes, such as paints, hydrocarbon-contaminated materials, batteries, fluorescent tubes, aerosol cans and medical wastes
3. equipment and materials, such as hard hats and tools or supplies backloaded to support vessels.

Non-hazardous, hazardous and smaller items may be accidentally lost from vessels, as a result of human error, incorrect or inappropriate waste storage, mechanical failure or breakdown of equipment, or dropped objects. Based on industry experience, the most common solid material accidentally lost includes articles of personal protective equipment, such as hard hats or gloves, and small tools or equipment that may be dropped by vessel personnel.

8.1.3 Potential Environmental Impact

Water quality will temporarily change due to the constituents of accidentally lost hazardous material leaching into the marine environment. The level of impact to water quality depends on the nature of the hazardous materials lost, which are typically residual volumes (less than 1m³) of waste hazardous materials such as residual paint in cans or oily rags. Due to wave action and metocean currents, minor releases of residual hazardous material will rapidly disperse and dilute local to the release, resulting in temporary and highly localised changes to the water quality. Non-hazardous material is inert; however, may result in impact to marine fauna from ingestion or entanglement, which has been assessed further below.

Impacts from a change in water quality to marine fauna, such as fish, marine mammals, and marine reptiles, are not anticipated, given the localised nature of the water quality change and the transient nature of these species.

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An accidental loss of solid material may impact marine fauna through ingestion of, and entanglement with, waste. Marine fauna that ingest or become entangled in solid materials – particularly floating, non-biodegradable marine debris such as plastic – may be subject to physical harm that limits or inhibits physiological processes, potentially resulting in fauna fatality. Loss of plastics is of particular concern to seabirds and marine turtles. Wilcox *et al.* (2015) note foraging seabirds ingesting plastics may be subject to gut obstruction or reduced stomach volume, resulting in a loss of fitness. Turtles have been known to ingest plastics when mistaking it for food sources, such as jellyfish (Mrosofsky *et al.*, 2009). It is recognised fishing gear – ropes and nets made from synthetic fibres – balloons and plastic bags are the biggest entanglement threat to marine fauna, and plastic bags and utensils are the biggest ingestion risk for seabirds, turtles and marine mammals (Wilcox *et al.*, 2016, cited in Commonwealth of Australia, 2018).

While marine mammals may be present within the Operational Area (Section 4.4), no BIAs overlap (refer Table 4.5). It is not anticipated that species will be present in significant numbers and, if present, would only be in the vicinity for short periods of time; for example, transiting through the area. Potential impacts to marine mammals either entangling or ingesting lost plastics, will be limited to a small number of individuals. Any impact is anticipated to be minor and will not result in impacts at a population level.

The Operational Area overlaps the foraging BIA for green turtle and the foraging BIA for olive ridley turtle (refer Table 4.5). However, it is expected that these species will be transiting/foraging for short periods only and are not likely to be resident or occur in the area in significant numbers.

8.1.4 Environmental Performance Outcomes and Control Measures


EPOs relating to this risk include:

- no unplanned objects, emissions or discharges to sea or air (EPO-12).

CMs relating to this risk include:


- hazardous and non-hazardous waste management processes (CM-18)
- Lifting Operations Standard (ENI HSE ST 007) (CM 19).

EPSs and MC relating to the above are presented in Section 9.

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8.1.5 As Low as Reasonably Practicable Demonstration


Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Eliminate production of non-hazardous and hazardous waste	Eliminates the risk of releasing non-hazardous solids to the marine environment; however, eliminating the use of consumable products is not possible due to operational requirements. Waste will therefore be generated. Use of the MODU and vessels (which generate waste) is required to perform the Blacktip drilling activities and therefore risk cannot be eliminated.	✘
Substitute	N/A	N/A.	N/A
Engineering	N/A	N/A.	N/A
Isolation	Hazardous and non-hazardous processes (waste segregated in accordance with Marine Order 95)	Securely segregating and isolating the hazardous and non-hazardous waste on the MODU and support vessels, in accordance with Marine Order 95, will reduce the likelihood of it being lost to the marine environment. Minor cost involved in segregating the hazardous and non-hazardous waste.	✓ (CM-18)
Administrative	Lifting Operations Standard (ENI-HSE-ST-007)	Details processes to reduce risk of dropped objects, including: <ul style="list-style-type: none"> • competency of persons undertaking lift • planning and preparation process for undertaking lifts. Reducing the risk of dropped object outweighs the personnel cost associated with implementing standard.	✓ (CM-19)

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8.1.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	Waste management complies with the requirements of Marine Order 95 (particularly Regulations 6.1 and 6.4). Blacktip drilling activities are compliant with the EPBC approval conditions (EPBC 2003/1180).
Policy Compliance	The management of solid waste risks is aligned with Eni policies and standards. The residual risk is Low, which is acceptable. The EPOs, CMs and EPSs that will be implemented are consistent with Eni internal requirements.
Social Acceptability	To date, no relevant person concerns have been raised regarding unplanned loss of solid wastes (refer Section 5). An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.
Area Sensitivity/ Biodiversity	Eni has considered information contained in relevant recovery plans and approved conservation advice (as listed in Table 2.3). This includes the Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017b) and the Threat abatement plan for the impacts of marine debris on the vertebrate wildlife of Australia’s coasts and oceans (Commonwealth of Australia, 2018). The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9).
ESD Principles	The risks of this unplanned event are consistent with the principles of ESD because: <ul style="list-style-type: none"> the impacts associated with unplanned loss of solid material do not result in ‘threats of serious or irreversible harm’ as detailed within the EPBC Act and biodiversity and ecological integrity will be maintained conservative assumptions on scale of impact have been applied the health, diversity and productivity of the environment will be maintained, including for future generations.
ALARP	The residual risk has been demonstrated to be ALARP.

Given the short duration of the activities (refer Table 3.1) and the minor quantities of material that could be lost to the marine environment, residual risk is considered low, which is acceptable in accordance with Eni’s acceptability criteria (Table 6.5). Potential impacts are acceptable and ALARP.

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8.2 Vessel Collision with Marine Fauna (Risk ID U2)

8.2.1 Summary of the Environmental Impact

Hazard	Vessel Collision with Marine Fauna		
	Frequency	Severity	Risk
Inherent Risk	B	2	L
Residual Risk	A	2	L

8.2.2 Description of Hazard

There is the potential for vessels to collide with marine fauna, including cetaceans, fish, marine reptiles and seabirds, during the Blacktip drilling activities. The main collision risk is through vessel collision with large, slow-moving cetaceans, potentially resulting in severe injury or mortality.

The jack-up MODU at the WHP is not considered to pose a collision risk to marine fauna due to the fixed position.


8.2.3 Potential Environmental Impact

Marine mammals spend much of their life at or near the sea surface when breathing, making them susceptible to vessel strikes caused by moving vessels. Large, slow-moving cetaceans are most at risk of vessel collisions and the probability and consequence of a vessel strike between a vessel and cetacean is proportionate to the speed by which the vessel is travelling. It has been found a lethal injury from a vessel strike to a large whale will increase by 20% at 8.6 knots to 80% at 15 knots (Vanderlaan & Taggart, 2007). Similarly, an increase in vessel numbers increases the likelihood of strike (Silber & Bettridge, 2012).

As presented in the National Strategy for Mitigating Vessel Strike of Marine Megafauna 2017 (Commonwealth of Australia, 2017a), most of the reported vessel collisions for whales in Australian waters between 1990 and 2015 have occurred along eastern or south-eastern Australia, with no reported incidences in NT waters (Commonwealth of Australia, 2017a).

Cetaceans may 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. These behaviours can contribute to reducing the likelihood of a vessel strike.

While marine mammals may be present within the Operational Area (Section 4.4), the Operational Area is 430km from the pygmy blue whale distribution and migration BIA and 370km from the humpback breeding and calving BIA (refer Table 4.5). It is not anticipated that marine mammal species will be present in significant numbers and, if present, would only be in the vicinity for short periods of time; for example, transiting through the area.

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The worst potential impact from vessel collision would be mortality or serious injury for an individual. Vessels undertaking activities in the Operational Area will typically move slowly; therefore, the potential of collision with marine mammals is considered unlikely. Considering there are no regionally-significant feeding, breeding or aggregation areas for marine mammals in the Operational Area, impacts are likely to be limited to individuals only. Any impact is anticipated to be minor and will not result in impacts at a population level.

8.2.3.1 Marine Turtles

Turtles are vulnerable to vessel strikes as they surface to breathe, bask near the surface, or forage in shallow areas or on prey near the sea surface. Adult sea turtles are at increased risk during breeding and nesting season.

The Operational Area overlaps with the BIA for green turtles (foraging) and olive ridley turtles (foraging) and a BIA for the flatback turtles (internesting) is 8km from the Operational Area (refer Table 4.5). However, considering the water depths of the Operational Area, it is expected these species will be transiting/foraging for short periods only and are not likely to be resident or occur in the area in significant numbers.

Turtles may exhibit avoidance behaviour in response to vessel presence, which generally decreases the risk of vessel collision. Marine turtles on the sea surface have been observed avoiding approaching vessels by typically moving away from the vessel's track (Hazel *et al.*, 2007); however, individual species' ability to flee is proportionate to the speed at which the vessel is moving. Vessels undertaking activities in the Operational Area will typically move slowly, and marine turtles would be expected to show some avoidance to vessels.

Marine turtle mortality due to vessel strike has been identified as an issue in Queensland waters in the Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017b). However, turtles appear to be more vulnerable to boat strike in areas of high urban population where incidents of pleasure crafts are higher. Vessel strikes, as a standalone threat, have not been shown to cause declines at a population or stock level in the NT (Commonwealth of Australia, 2017b). Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017b).

8.2.4 Environmental Performance Outcomes and Control Measures


EPOs relating to the risk include:

- no injury or mortality to EPBC Act listed fauna during operational activities (EPO-06).

CMs relating to this risk include:


- regulations and measures for interacting with marine fauna (CM-08).

EPSs and MC relating to the above are presented in Section 9.

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8.2.5 As Low as Reasonably Practicable Demonstration

Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Eliminate vessel and use	Would eliminate risk. However, vessel movements cannot be eliminated as the vessels are required to support the MODU.	*
Substitute	N/A	N/A.	N/A
Engineering	N/A	N/A.	N/A
Isolation	N/A	N/A.	N/A
Administrative	Regulations and measures for interacting with marine fauna (e.g., EPBC Regulations 8 (Part 8))	Minor cost in complying. Reduces risk of physical and behavioural impacts to marine fauna. EPBC Regulations include restrictions such as vessel speed and direction when in proximity to marine fauna and are based on legislated requirements.	✓ (CM-08)
	Use of a dedicated marine fauna observer	Improves ability to spot and identify marine fauna at risk of collision. However, costs involved with implementing a dedicated marine fauna observer is grossly disproportional to the environmental benefit, given low risk.	*
	Use of spotter planes to identify marine fauna in the region	Improves ability to spot and identify marine fauna at risk of collision. However, costs involved with implementing a dedicated marine fauna observer is grossly disproportional to the environmental benefit, given low risk.	*
	Plan vessel movements during periods when sensitive marine fauna are not present	May reduce the risk of vessel strikes during sensitive periods when more fauna may be present. However, limiting the vessel use to avoid sensitive periods would introduce other safety and environmental hazards, such as higher probability of inclement weather. In addition, there is a low likelihood of encountering marine mammals in the Operational Area.	*

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8.2.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	<p>Vessel and helicopters will comply with EPBC Regulations 2000 – Part 8 (Interacting with cetaceans) and the Australian National Guidelines for Whale and Dolphin Watching 2017 (Commonwealth of Australia, 2017d). Specifically:</p> <ul style="list-style-type: none"> • Vessels will comply with EPBC Regulations 2000 – Part 8 Division 8.1 (Interacting with cetaceans) • Helicopters will comply with EPBC Regulations 2000 – Part 8 Division 8.3 (Regulation 8.07). <p>Blacktip drilling activities are compliant with the EPBC approval conditions (EPBC 2003/1180).</p>
Policy Compliance	<p>The management of marine fauna interaction is aligned with Eni policies and standards. The residual risk is Low, which is acceptable.</p> <p>The EPOs, CMs and EPSs that will be implemented are consistent with Eni internal requirements.</p>
Social Acceptability	<p>To date, no relevant person concerns have been raised regarding marine fauna interaction (refer Section 5).</p> <p>An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>
Area Sensitivity/ Biodiversity	<p>Eni has considered information contained in relevant recovery plans and approved conservation advice for cetaceans that identify vessel strike as a threat (as listed in Table 2.3). This includes the Recovery plan for marine turtles in Australia 2017–2027 (Commonwealth of Australia, 2017b) and the Conservation Management Plan for the Blue Whale 2015–2025 (Commonwealth of Australia, 2015a). Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice.</p> <p>Management of vessel collisions is consistent with the National Strategy for Mitigating Vessel Strike of Marine Megafauna 2017 (Commonwealth of Australia, 2017a).</p> <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the JGB Gulf AMP (refer Table 4.9).</p>
ESD Principles	<p>The risks of this unplanned event are consistent with the principles of ESD because:</p> <ul style="list-style-type: none"> • the impacts associated with unplanned interactions with marine fauna have the potential to occur to a small number of an overall population and population-level impacts will not occur so the event does not result in 'threats of serious or irreversible harm', as detailed within the EPBC Act, and biodiversity and ecological integrity will be maintained • conservative assumptions on scale of impact have been applied, including a conservative assumption on marine fauna presence • the health, diversity and productivity of the environment will be maintained, including for future generations.
ALARP	The residual risk has been demonstrated to be ALARP.

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Given the short duration of the activities (refer Table 3.1) and lack of marine fauna aggregation areas in the Operational Area, the residual risk is considered low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Potential impacts are acceptable and ALARP.

8.3 Introduction of Marine Pest Species (Risk ID U3)

8.3.1 Summary of Environmental Impact

Hazard	Introduction of Marine Pest Species		
	Frequency	Severity	Risk
Inherent Risk	C	3	MH
Residual Risk	A	3	L

8.3.2 Description of Hazard

The activities that have the potential to result in the introduction of IMS are:


- discharges of vessel ballast water containing foreign species
- translocation of species on submerged equipment, such as an ROV
- translocation of species through biofouling of the MODU or vessel hull or niches, such as sea chests, bilges or strainers.

For IMS to survive, there are conditions that would need to occur. Firstly, the IMS needs to be present on the vector, such as a vessel hull, then the IMS needs to be released from the vector to the receiving environment, and finally the environmental conditions of the Operational Area need to be conducive to the IMS colonising and then establishing a new local population. This includes water temperature, water depth, suitable habitat and presence of predators. For this assessment, it has been assumed the vectors have potential to carry IMS – either through biofouling, ballast water or both – and the activities in the Operational Area have potential to transfer the IMS.

8.3.2.1 Biofouling

Biofouling is the growth of marine organisms that occur on surfaces that have been immersed in the marine environment, usually for an extended period of time. Biofouling commonly occurs on the lower hulls of vessels and other submerged surfaces, and the level of biofouling is relative to the amount of water movement the area experiences. Areas with high water movement, such as propellers, tend to have lower levels of biofouling, and areas subject to low water movement, such as stationary vessels or slow-moving vessels, have higher levels of biofouling.

As soon as a surface is submerged in seawater, a range of micro-organisms attach to it. This often starts as a slimy surface film of microscopic bacteria and algae, which then facilitates the growth of larger organisms such as macroalgae. This secondary level of larger organisms then facilitates the growth of larger encrusting organisms, such as ascidians and mussels. Most species identified as an IMS risk in Australian waters can be characterised as these larger encrusting organisms.

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Biofouling in Australia is managed under the *Biosecurity Act 2015* and Biosecurity Amendment (Biofouling Management) Regulations 2021 (Biofouling Regulations), via the National Biofouling Management Guidelines for the Petroleum Production and Exploration Industry (Marine Pest Sectoral Committee, 2018), and the National biofouling management guidelines for commercial vessels (Marine Pest Sectoral Committee, 2018) for export tankers. These Australian national guidelines align with the internationally agreed 2011 Guidelines for the Control and Management of Ships Biofouling to Minimise the Transfer of Invasive Aquatic Species (the IMO Biofouling Guidelines; IMO, 2011).

8.3.2.2 Ballast Water

Ballast water is water adjusted on vessels to help manage weight and stability and improve manoeuvrability. During the uptake of ballast water from the surrounding environment in an international or domestic location, it is possible for a vessel to take in water that contains planktonic biota, including holoplankton, gametes, spores and larvae. This biota may then be discharged at the vessel's new location during ballast water exchange. Ballast water management is a critical mechanism for achieving safe vessel operations.


Seawater is the most likely source for ballast water, which contains thousands of microbes, plants and animals. Gollasch *et al.* (2002) looked at 1508 samples of ballast water and identified 990 different species within it. Ballast water is discharged and recharged at various times throughout vessel operations, meaning those microbes, plants and animals can be picked up in one location and discharged in another. If ballast water is not managed appropriately, it is capable of spreading IMS.

Given the risk ballast water presents for spreading IMS across the marine environment, the International Convention for the Control and Management of Ships Ballast Water and Sediment (Ballast Water Convention) (IMO, 2017) is adopted for all vessels. The Ballast Water Convention sets out standards and procedures for managing ballast water and includes the phasing out of ballast water exchange. The Ballast Water Convention is implemented in Australia through the Australian Ballast Water Management Requirements (DAWE, 2020), which contains several requirements for managing ballast water with which the vessels operating within the Operational Area will be required to comply.

8.3.3 Potential Environmental Impact

The establishment of IMS could cause direct and indirect impact to benthic habitats, including:

- competition with native species for food
- competition with native species for hard substrate
- predation of native species.

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Water depth within the Operational Area is greater than 40m. IMS are generally unable to establish in deep-water ecosystems, most likely due to a lack of light or suitable habitat to sustain their growth and survival. The offshore open waters of the Operational Area are therefore not conducive to the settlement and establishment of IMS. The likelihood that any marine organisms could become established at the field is rare.

Previous surveys have not identified any sensitive seabed habitats. Sediments are predominantly very soft, grey-green, gravelly sand clays (Woodside, 2004).

Vessels sourced from local ports do not carry the same quarantine risks as international vessels or out-of-State vessels, as they supply the same waters as those in the Operational Area. Given the depths at the WHP (>50 m), establishment of IMS is unlikely to occur on the seabed due to the lack of light or suitable habitat (flat, featureless bottom).

If left unmanaged, IMS can result in often irreversible impact to the marine environment. Bax *et al.* (2003) state IMS often significantly change the environment in which they are introduced. This change may include predation pressure on native organisms, smothering habitats or providing new structural habitat (Bax *et al.*, 2003).

8.3.3.1 Commercial Fisheries

Several Commonwealth, Western Australian and Northern Territory managed fisheries, may be active in the area surrounding the Operational Area (Section 4.6.1).

The establishment of IMS may result in increased abundance of prey for fish species targeted by commercial fisheries, although this is unlikely to result in any detectable change in the abundance of targeted fish or commercial by-catch. Most of the IMS identified as being most likely to establish in Australia inhabit shallow waters with hard substrate (Marine Pest Sectoral Committee, 2018). Therefore, it is rare that IMS would establish within the Operational Area and impact nearby fisheries.

8.3.4 Environmental Performance Outcomes and Control Measures


EPOs relating to this risk include:

- no introduction of IMS from Blacktip operations (EPO-13).

CMs relating to this risk include:


- implementation of an IMS risk assessment tools (CM-20)
- ballast water management (CM-21)
- biofouling management (CM-22).

EPSs and MC relating to the above are presented in Section 9.


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8.3.5 As Low as Reasonably Practicable Demonstration


Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Do not use a MODU or vessels	The use of a MODU and vessels is unavoidable; therefore, the risk of exotic species being transported in ballast water or hull fouling cannot be completely eliminated.	*
	Do not exchange ballast	Exchange of ballast water is a safety-critical activity for marine operations and elimination of exchange could put the vessel at risk.	*
	Timing drilling to where possible to avoid fish spawning season during warmer months (September-March)	During 2023 consultation, the DITT / NT Fisheries requested that where possible, drilling is undertaken during warmer months (September-March) to avoid fish spawning season. The timing of the Blacktip drilling activities is subject to vessel and MODU availability in the region as well as weather conditions; and given the nature of the work, it is not feasible to commit to limiting work to specific periods of the year. The potential impact to commercial fish species and fisheries from the drilling activity is assessed in relevant sections in Section 7 and 8; and is considered acceptable and reduced to ALARP.	*
Substitute	Contract only local MODUs and vessels	Contract MODU only operating in local, State or national waters to reduce potential for IMS; however, may present significant costs and delay in activity schedule.	*
	Alternative ballast system which does not require a discharge	Using an alternative ballast system to avoid uptake/discharge of water would reduce the requirement for ballast water exchange; however, sourcing such vessels may present significant costs and delay in activity scheduling and ballast water exchange is standard practice on many vessels.	*
Engineering	Heat treatment of ballast water to eliminate IMS	Heat treatment will reduce potential for IMS to establish by eliminating individuals present in ballast water itself. However, discharge of water at a much higher temperature than the surrounding marine environment would likely result in impact to local water quality and impact to marine species.	*
Isolation	N/A	N/A.	N/A

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Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Administrative	Dry-docking before entering field to clean vessel and equipment and remove biofouling	Would minimise risk of IMS; however, presents significant cost and would lead to scheduling delays. Would be considered only to reduce IMS risk level.	*
	Implementation of an IMS risk assessment tool	Ensures the MODU and vessels are assessed to low IMS risk before mobilising for the activity. Minimal cost involved in demonstrating the MODU and vessels are of 'low risk' of introducing IMS through completion of an IMS risk assessment. IMS management measures will be applied to vessels according to risk to minimise the likelihood of IMS being introduced, such as the treatment of internal systems, IMS inspections or cleaning.	✓ (CM-20)
	Ballast water management	Pursuant to the <i>Biosecurity Act 2015</i> and <i>Biosecurity Amendment (Biofouling Management) Regulations 2021</i> (Biofouling Regulations), support vessels and MODU carrying ballast water and engaged in international voyages shall manage ballast water in accordance with a Ballast Water Management Plan. Reduces IMS risk and minimal cost to manage. Vessels should already have a plan in place to meet vessel legislative and Eni vessel contracting requirements.	✓ (CM-21)
	Biofouling management	The likelihood of introducing IMS from vessels and MODU is reduced due to anti foulant systems in accordance with IMO Guidelines for the control and management of ships' biofouling to minimise the transfer of invasive aquatic species (Marine Environment Protection Committee, 2011). Includes marine growth prevention systems on the seawater intakes and ballast pumps.	✓ (CM 22)

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8.3.6 Acceptability Demonstration

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Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	<p>The risk of introducing IMS will be managed in accordance with:</p> <ul style="list-style-type: none"> • Australian Ballast Water Requirements (DAWE, 2020) • Offshore Installations – Biosecurity Guide (DAWR, 2020) • IMO’s Guidelines for the Control and Management of Ships’ Biofouling to Minimise the Transfer of Invasive Aquatic Species (IMO, 2011) • <i>Biosecurity Act 2015</i>, including Biosecurity Amendment (Biofouling Management) Regulations 2021 (Biofouling Regulations) • Fish Resources Management Regulations 1995 • WA DPIRD Biofouling and Biosecurity Policy. <p>Blacktip drilling activities are compliant with the EPBC approval conditions (EPBC 2003/1180).</p>
Policy Compliance	<p>The management of IMS is aligned with Eni policies and standards. The residual risk is Low, which is acceptable.</p> <p>The EPOs, CMs and EPSs that will be implemented are consistent with Eni internal requirements.</p>
Social Acceptability	<p>To date, no relevant person concerns have been raised regarding IMS risk (refer Section 5).</p> <p>The DITT / NT Fisheries raised concerns about the timing of the activity; requesting where possible drilling avoid the warmer months during fish spawning season (September-March). The timing of the Blacktip drilling activities is subject to vessel and MODU availability in the region as well as weather conditions; and given the nature of the work, it is not feasible to commit to limiting work to specific periods of the year. This additional control was assessed as part of the ALARP evaluation, and not adopted.</p> <p>An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>
Area Sensitivity/ Biodiversity	<p>The main risks associated with the introduction of marine pest species are the displacement of native species or interference with ecosystem processes in other ways (such as through predation). Provided the biosecurity controls are implemented during the activities, the risk of introduction of marine pest species is deemed low.</p> <p>IMS has not been identified as a threat in any recovery plans or conservation advice for Threatened and Migratory species. However, Eni has considered information contained in relevant recovery plans and approved conservation advice for habitat modification (which could occur as a result of IMS establishing) (listed in Table 2.3). The Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice.</p> <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9).</p>

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Demonstration of acceptability	
ESD Principles	<p>The impact from this event is not inconsistent with the principles of ESD, but the risk associated with the event occurring is because:</p> <ul style="list-style-type: none"> while the nature and scale of impacts have the potential to result in lasting change to benthic community dynamics, the controls that will be implemented reduce the risk to an acceptable level conservative assumptions have been applied to the impact assessment, including assuming conditions in the Operational Area are conducive for IMS to establish and that vessels mobilised to the Operational Area are a vector for IMS while there is a rigorous understanding of the environment, further studies are planned to increase confidence in the assessment.
ALARP	The residual risk has been demonstrated to be ALARP.

Given the short duration of the activities (refer Table 3.1), the water depths and the lack of hard substrates in the Operational Area, the residual risk is considered low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Potential impacts are acceptable and ALARP.

8.4 Accidental Minor Spills and Leaks (Risk ID U4)

8.4.1 Summary of Environmental Risk Assessment

Hazard	Loss of Hydraulic Fluid and Bulk Chemicals		
	Frequency	Severity	Risk
Inherent Risk	B	3	M
Residual Risk	B	1	L


8.4.2 Description of Hazard

Causes for accidental minor spill and leaks include:

- hydrocarbon and hydraulic fluids (less than 1m³) from:
 - ROV failure, including oil seal, hydraulic system hose and quick-disconnect system failures
 - structural failure of infrastructure containing MDO on the vessel or MODU
- fluid and base oil/diesel from flaring drop-out (less than 1m³).

The types of fluids stored on the MODU and vessels range from lubricating fluids to hydraulic, fuel and cooling fluids. Leaks could occur due to a failure of a mechanical component, fitting, or hose. Other than vessels, the largest credible spill would be a release of less than 1m³ of stern tube oil (non-hydrocarbon-based lube oil) from a vessel thruster or propeller stern tube.

Accidental release of hydraulic fluids volumes from ROV failure are expected to be low (approximately 20 L) and may occasionally occur from operation of the ROV, if hydraulic lines are pinched during subsea work.

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Clean-up via the MODU well test package (refer Section 3.8.6) will result in a flare emission from the MODU. Gas produced during the well-cleanup will be flared via the gas flare. Gas condensate produced will be flared via the oil burner. Flare burn may be interrupted by pressure drops and inadequate combustion in the flaring system during well-cleanup. As a result, flaring drop-out may occur from the oil burner. Subsequently a small volume (less than 1m³) of diesel or base oil (burnt during clean-up) may be discharged into the marine environment before flow is shut off to the flare.

8.4.3 Potential Environmental Impact

The hydraulic fluid typically used during vessel operations is a water-based hydraulic fluid, Oceanic HW443. Oceanic HW443 is reported to have a low toxicity to the marine environment and has been classified under the OCNS as Class D, which represents a low toxicity (refer Section 3.12). It has been used widely in marine environments worldwide with no observed environmental effect.

Base oil/diesel from flare drop-out will rapidly evaporate and disperse in the marine environment. More detail on impacts specific to a spill of marine diesel and its behaviour in the marine environment is presented in Section 8.6.


Water quality will temporarily reduce due to the constituents of chemicals and hydrocarbon releasing into the marine environment, some of which will be toxic. The level of impact to water quality depends on the nature and volume of the chemical lost, which are typically low volumes.

All operational chemicals will be selected to reduce environmental impacts to ALARP. Hydraulic fluids are medium oils of light to moderate viscosity and have a relatively rapid spreading rate and, like MDO, will dissipate quickly, particularly in high sea states.

Due to wave action and metocean currents and the low volumes potentially lost, minor accidental releases will rapidly disperse and dilute local to the release site, resulting in temporary (hours) and highly localised reduction in water quality. No long-term reduction in water quality is expected.

Given the minor accidental releases will dilute and disperse rapidly within the marine environment, with highest concentrations of harmful constituents very close to the release site, the impact on water quality is anticipated to be temporary in nature and minor.

Marine fauna – for example, marine mammals, fish, marine reptiles and seabirds – may be exposed to the minor spill and leaks. However, such spills are unlikely to have widespread ecological effects, given the nature of the release, the scale (small volumes) as well as the open-ocean environment of the location which facilitates dispersion. Any impacts will be limited to short-term behavioural change as any marine fauna traverse the release. Physical coating of marine fauna coming into contact with entrained or surface components, and associated sublethal or lethal effects from toxic chemicals, are not considered credible.

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Eni has considered information contained in relevant recovery plans and approved conservation advice for marine fauna (as listed in Table 2.3). This includes the objectives and actions within the Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017b), which identify chemical discharge as a threat to all species of marine turtles. Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice.

8.4.4 Environmental Performance Outcome and Control Measures

EPOs relating to this risk include:

- no unplanned objects, emissions or discharges to sea or air (EPO-12)
- maximise efficiency of combustion during flaring (EPO-05).


CMs relating to this risk include:

- on board spill response kits on vessels (CM-23)
- vessel spill response plan (SOPEP) (CM-24)
- flare management (CM-25).


EPSs and MC relating to the above are presented in Section 9.

8.4.5 As Low as Reasonably Practicable Demonstration

Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Eliminate hydraulic systems and ROVs	Would eliminate the environmental risk associated with minor spill and leaks. The requirement for hydraulic systems and their hoses and connections cannot be eliminated and are required for operations.	*
Substitute	N/A	N/A.	N/A
Engineering	N/A	N/A.	N/A
Isolation	N/A	N/A.	N/A
Emba Administrative	On-board spill response kits on vessels	Environmental benefit outweighs minor costs in implementing and locating spill response kits in proximity to hydrocarbon storage/bunkering areas on vessels and MODU.	✓ (CM-23)

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Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
	SOPEP, which contains plans to prevent spills reaching the marine environment	<p>Environmental benefit outweighs minor costs in implementing and testing the vessel spill response plan (SOPEP), which contains plans to prevent spills reaching the marine environment.</p> <p>The SOPEP is a requirement under MARPOL Annex 1 requirements (all vessels over 400 gross tonnages have SOPEP or Shipboard Marine Pollution Emergency Plans outlining options to control the source of a hydrocarbon spill).</p>	<p>✓ (CM-24)</p>
	Flare management	<p>Environmental benefit outweighs minor costs (flare watcher, clean burner use) of implementing a range of management measures that aim to reduce the drop-out events and volumes lost. These include:</p> <ul style="list-style-type: none"> • the use of modern 'clean' burner • dual redundant ignition systems (of differing designs) to maximise reliability and minimise the risk of flare-out • a dedicated flare watcher to communicate an unplanned flare drop-out from the oil burner. • investigation and correction of drop-out events from the oil burner. 	<p>✓ (CM-25)</p>

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8.4.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	Blacktip drilling activities are compliant with the EPBC approval conditions (EPBC 2003/1180).
Policy Compliance	The management of accidental/minor spills is aligned with Eni policies and standards. The residual risk is Low, which is acceptable. The EPOs, CMs and EPSs that will be implemented are consistent with Eni internal requirements.
Social Acceptability	To date, no relevant person concerns have been raised regarding accidental/minor spills (refer Section 5). An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.
Area Sensitivity/ Biodiversity	Eni has considered information contained in relevant recovery plans and approved conservation advice for cetaceans that identify deteriorating water quality and chemical discharge as potential threats (as listed in Table 2.3). This includes the Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017b). The Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice. The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the JBG Gulf AMP (refer Table 4.9).
ESD Principles	The risk of this unplanned event is consistent with the principles of ESD because: <ul style="list-style-type: none"> the impacts associated with unplanned minor loss/spills do not result in 'threats of serious or irreversible harm', as detailed within the EPBC Act, and biodiversity and ecological integrity will be maintained conservative assumptions on scale of impact have been applied the health, diversity and productivity of the environment will be maintained, including for future generations.
ALARP	The residual risk has been demonstrated to be ALARP.

Given the short duration of the activities (refer Table 3.1) and low consequence from accidental minor spills and leaks, the residual risk is considered low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Potential impacts are acceptable and ALARP.

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8.5 Spill Risk Assessment


8.5.1 Summary of Worst-Case Credible Unplanned Hydrocarbon Spill Scenarios

Worst-case unplanned hydrocarbon spill scenarios have been identified in Table 8.1. The methods used to determine these worst-case spills are consistent with guidance provided by AMSA (2015) and have been informed by industry experience. Hydrocarbon spills are uncommon events and typically involve much smaller volumes than those identified in Table 8.1. The release volumes presented make no allowance for any prevention, control, containment, or clean-up measures – as in, the scenarios are entirely unmitigated and are therefore considered highly conservative and worst-case.

The hydrocarbon spill scenarios (Table 8.1) do not encompass all possible spills; rather, are worst-case and based on the maximum volume of hydrocarbons that could credibly be released during the Blacktip drilling activities. Other scenarios may release small volumes; however, given the potential consequences of these spills are much smaller, they have not been modelled or been further assessed for impact.

Table 8.1: Summary of credible unplanned release of hydrocarbon scenarios

Scenario	Volume	Release duration	Section	Modelled
Blacktip condensate				
Loss of well control during drilling (well blowout) resulting in a long-term (74-day) uncontrolled surface release of 4943m ³ Blacktip condensate	4943m ³	74 days	8.6	Yes (Section 8.6)
Loss of well control during drilling (well blowout) as a result of an explosion/fire scenario resulting in short term (three-day) surface release and a long-term (71 day) uncontrolled surface release of 4943m ³ Blacktip condensate	4943m ³	74 days		No
MDO				
Surface release of MDO from a vessel as a result of an external impact (vessel collision), which ruptures an MDO tank	60m ³	1 hour	8.7	Yes (Section 8.7)
Surface release of MDO due to leaking or ruptured bunker transfer equipment	<40m ³	15 minutes		No

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8.5.2 Spill Scenarios Assessed Using Hydrocarbon Spill Dispersion Modelling

Modelling was undertaken by RPS on behalf of Eni to predict the potential extent (and area) of a worst-case spill event. The spill modelling was performed using an advanced 3D trajectory and fates model: Spill Impact Model Application Package. The model calculates the transport, spreading, entrainment and evaporation of spilled hydrocarbons at regular time steps, based on the prevailing wind and current conditions and the physical and chemical properties. For any hydrocarbons that contact a shoreline, the model records the accumulation of oil mass that arrives on the shoreline over time, less any mass that is lost to evaporation and subsequent removal by current and wind forces. The modelling does not consider any spill prevention or mitigation that would be implemented in response to the spill and is therefore highly conservative.

Modelling was conducted using a stochastic (or probabilistic) approach. The stochastic approach captures a wide range of potential weathering outcomes under varying environmental conditions, which is reflected in the aggregated spatial outcomes showing the potential hydrocarbon exposure in the marine environment at different thresholds (refer Section 8.5.3).


Stochastic modelling compensates for the uncertainty associated with any single oil spill event, ensuring risk assessment and spill response planning are conservative, covering a wide range of possible scenarios. The footprint of an actual spill event is more accurately represented by only one of the simulations from the stochastic modelling, which results in a much smaller spatial footprint. Modelling of a single simulation, representative of a single spill event, is termed a deterministic run. The deterministic runs presented show the footprint (trajectory and fate) of a single worst-case release resulting in the largest volume of oil ashore and the longest length of shoreline with oil accumulation.

8.5.3 Hydrocarbon Contact Exposure Thresholds

Hydrocarbons in the marine environment can be categorised into four separate phases, each with varying fates and impact mechanisms, being:

1. floating: surface
2. shoreline: accumulated hydrocarbon stranded onshore
3. entrained: in-water
4. dissolved: in-water.

Impact exposure thresholds are applied to the hydrocarbon spill modelling and used to inform the assessment of potential impacts and risks from a hydrocarbon release. Thresholds applied to each phase of hydrocarbons are summarised in Table 8.2 and described further in Table 8.3. Thresholds are aligned with guidance from NOPSEMA (2019b).

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The EMBA (refer Section 4.1) is based on stochastic modelling using low exposure thresholds for each phase. The low thresholds are typically not expected to result in impacts to environmental receptors but are used for evaluating socioeconomic impacts, and are used in oil spill response preparations, such as operational and scientific monitoring, and in response arrangements. Moderate exposure area thresholds may be representative of an area of biological impact from hydrocarbons.

Table 8.2: Summary of environmental hydrocarbon thresholds applied to the environment that may be affected and zone of potential impact


Zone	Surface hydrocarbon (g/m ²)	Entrained hydrocarbon (ppb)	Dissolved aromatic hydrocarbon (ppb)	Shoreline contact hydrocarbon (g/m ²)
EMBA (low exposure)	1	10	6	10
ZPI (moderate exposure)	10	100	50	100
High exposure area	50	-	400	1000

Table 8.3: Hydrocarbons exposure thresholds


Exposure	Exposure threshold	Evaluation
Floating (surface)		
Low	1g/m ²	Floating hydrocarbons at a concentration of 1g/m ² – equivalent to a thickness of 0.001mm or 1ml of oil per m ² – have rainbow sheen in appearance, according to the Bonn Agreement Oil Appearance Code (Bonn Agreement, 2009). Although this is lower than the exposure value for ecological impacts, it may be relevant to environmental monitoring of oil spills, as contact at this threshold is considered to temporarily change ambient water quality and aesthetics. A threshold of 1g/m ² has been used as the criteria for defining the EMBA.
Moderate	10g/m ²	Floating hydrocarbons at a concentration of 10g/m ² , or 10ml of oil per m ² , is used for registering biological impacts resulting from contact of surface hydrocarbons. They have been estimated by different researchers at approximately 10 to 25g/m ² . Potential impacts of surface slick concentrations in this threshold range may include harm to seabirds through ingestion from preening of contaminated feathers or the loss of the thermal protection of their feathers. This hydrocarbon exposure value is also considered appropriate for potential effects to turtles, sea snakes and marine mammals.
High	25g/m ²	Floating hydrocarbons at a concentration of 25g/m ² may be visible on the surface with a metallic appearance (Bonn Agreement, 2009). At greater thicknesses, the potential for impact of surface oil to wildlife increases.

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Exposure	Exposure threshold	Evaluation
Shoreline		
Low	10g/m ²	<p>French-McCay (2009) defines accumulated hydrocarbons $\geq 100\text{g/m}^2$ to be the threshold that could impact the survival and reproductive capacity of benthic epifaunal invertebrates living in intertidal habitat. As a conservative measure, a threshold of 10g/m^2 has been applied to represent shoreline impact and represents a low contact value for interpreting shoreline accumulation modelling results (French-McCay, 2008, 2006) and may be considered as a temporary change to sediment quality and aesthetics.</p> <p>A threshold of 10g/m^2 has been used as the criteria for defining the EMBA.</p>
Moderate	100g/m ²	<p>Accumulated hydrocarbons of 100g/m^2 is derived from levels likely to cause adverse impacts to marine or coastal fauna and habitats. Environmental risk assessment studies (French-McCay, 2009) report an oil thickness of 0.1 mm (100g/m^2) on shorelines is assumed as the lethal exposure value for invertebrates on hard substrates and sediments. It is also likely to be representative of the minimum limit the oil can be effectively cleaned (AMSA, 2015; NOPSEMA, 2019) and is therefore used as a guide for shoreline clean-up planning.</p>
High	1000g/m ²	<p>At greater thicknesses, the potential for impact of accumulated oil to shoreline receptors increases.</p>
Entrained (in-water)		
Low	10 ppb	<p>The 10ppb exposure threshold represents the very lowest concentration and corresponds generally with the lowest trigger levels for chronic exposure for entrained hydrocarbons in water quality guidelines. Although this is lower than the exposure value at which most ecological impacts are expected to occur, it may be relevant in implementing environmental monitoring of oil spills.</p> <p>A 10ppb exposure has been used as the criteria for defining the EMBA.</p>
Moderate	100 ppb	<p>The 100ppb exposure threshold is considered conservative in terms of potential for toxic effects leading to mortality for sensitive mature individuals and early life stages of species. Entrained hydrocarbons are insoluble oil droplets suspended in the water column. A wider range of LC50 values have been reported for species of crustacea and fish, ranging from 100 to 258,000,000ppb (Gulec <i>et al.</i>, 1997; Gulec and Holdway, 2000). This threshold has been defined to indicate a potential zone of acute exposure, which is more meaningful over shorter exposure durations. Contact within this threshold may result in impacts to the marine environment, such as sublethal impacts to most species and lethal impacts to sensitive species.</p>

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Exposure	Exposure threshold	Evaluation
Dissolved (in-water)		
Low	6 to 10 ppb	<p>The 6 to 10ppb exposure threshold for species toxicity in the water column is based on global data from French <i>et al.</i> (1999) and French-McCay (2002, 2003), which showed species sensitivity (fish and invertebrates) to dissolved aromatics exposure greater than four days (96-hour LC50) under different environmental conditions varied from 6ppb to 400ppb, with an average of 50 ppb. This range covered 95% of aquatic organisms tested, which included species during sensitive life stages (eggs and larvae). Dissolved hydrocarbons include the monoaromatic hydrocarbons – compounds with a single benzene ring such as BTEX – and polycyclic aromatic hydrocarbons – compounds with multiple benzene rings such as naphthalenes and phenanthrenes.</p> <p>A 6ppb exposure threshold has been used as the criteria for defining the EMBA.</p>
Moderate	50 ppb	<p>Approximate potential toxic effects, particularly sublethal effects to sensitive species (see the above text). For most marine organisms, a concentration of between 50 and 400ppb is considered to be more appropriate for risk evaluation.</p> <p>A 50ppb exposure threshold has been used as an exposure value for potential toxic effects to sensitive species and life stages and potential sublethal effects for less sensitive species.</p>
High	400 ppb	Approximate toxic effects, including lethal toxic effects to sensitive species.

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8.6 Loss of Containment from Well Control (Risk ID U5)

8.6.1 Summary of Environmental Risk Assessment

Hazard	Loss of Containment from Well Blowout – Surface Blowout		
	Frequency	Severity	Risk
Inherent Risk	B	4	MH
Residual Risk	A	4	M

Hazard	Loss of Containment from Well Blowout – Surface then Subsea Blowout		
	Frequency	Severity	Risk
Inherent Risk	B	4	MH
Residual Risk	A	4	M


8.6.2 Description of Hazard

A loss of well control is an uncontrolled release of reservoir hydrocarbon or other well fluids to the marine environment, resulting from an over-pressured reservoir. Eni has identified a blowout as the scenario with the worst-case credible spill volume from loss of well control. A blowout is an incident where formation fluid flows out of the well or between formation layers after all the predefined technical well barriers (e.g., the BOP) or activation of the same have failed.

Credible spill scenarios for well blowout of Blacktip condensate are:

- Surface blowout: Loss of well control as a result of an over-pressured reservoir and multiple barrier failures during drilling or completion of a well resulting in a long-term (74-day) uncontrolled surface release of 4943m³ Blacktip condensate.
- Surface then subsea blowout: Loss of well control during drilling or completion of a well as a result of an explosion/fire scenario resulting in short-term (three-day) surface release and a long-term (71-day) uncontrolled subsea release of 4943m³ Blacktip condensate.

A surface blowout is the most credible scenario from Blacktip drilling activities. The wellheads are located on the WHP and therefore a blowout of condensate would be released from the surface.

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A subsea loss of well control is a credible scenario in the event of an explosion scenario at the MODU. In this event, the MODU is expected to sink due to an anticipated compromise in structural integrity and stability after a period of time. The most recent example of a similar scenario is the Deepwater Horizon incident, when the semi-submersible MODU sank after 36 hours after the loss of well control in the Gulf of Mexico in April 2010. Using this case as a base, the Blacktip condensate would be expected to be released at the surface for 36 hours before becoming a subsea release once the structure collapses. It is assumed the surface modelling presented in Section 8.6.2.4 is representative for informing the approximate spatial extent of this scenario, reason being that the water depth is relatively shallow (less than 50 m) and therefore the well fluids are expected to rise quickly as a coherent plume, driven by the buoyancy of the gas, and spread radially in a surface layer (Fannelop and Sjoen, 1980; National Research Council, 2003).

The following scenario was considered but determined 'not credible':

- A subsea rupture of the GEP due to a dropped object during drilling (e.g., from a rig crane).

A dropped object study has been undertaken for the MODU. Rig cranes that reach over the GEP will not be operated.

There is no credible scenario directly resulting in catastrophic damage to the conductors; the conductors and casings would continue to contain the well fluids. Even during drilling and intervention, by the time gas is reached, there would be multiple layers of impermeable casing installed within the conductor, eliminating the possibility of a subsea release.


8.6.2.1 Industry Experience

A risk assessment by AMSA of oil spills in Australian ports and waters concluded:

- overall national exceedance frequency for oil spills from offshore drilling in Australia is 0.033 for spills greater than one tonne per year, decreasing to 0.008 for spills greater than 100 tonnes per year (Det Norske Veritas, 2011)
- blowout events during oil well development drilling has been reported at a frequency of 3.4×10^{-5} per drilled well (IOGP, 2019; development drilling operations at normal wells, North Sea Standard).

Therefore, a loss of well control is considered highly unlikely.

Eni has a good history of implementing industry-standard practice in well design. Nor have there been any incidents resulting in offshore loss of well control events in Australia that have resulted in significant releases or significant environmental impacts. Given this and the above industry experience, a well blowout is a 'rare' event under the Eni Risk Assessment Matrix (Figure 6.2).

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8.6.2.2 Blowout Duration

The 74-day blowout duration has been determined as a worst-case duration and is based on the maximum depth of the hydrocarbon reservoir being open and the estimated time to drill a relief well under the AEP Mutual Aid Memorandum of Understanding (MoU). Seventy-four days of relief well drilling is based on the details within Table 8.4.

Table 8.4: Blacktip relief well drill times

Phase	Justification	Duration (days)
Mobilisation	Time to secure the rig plus mobilisation duration; access to a MODU to drill the relief well would be via the APPEA MoU for mutual aid	35
Drill relief well	Based on Eni, production well design	25
Intersect and kill	Based on Eni, production well design	7
Plug and abandon	Based on Eni, production well design	7
Total days		74

8.6.2.3 Blacktip Condensate Characteristics and Weathering

The physical and chemical properties of Blacktip condensate used for the oil spill modelling (described in Section 8.5) were determined from the Blacktip Condensate Assay Report (Intertek, 2009).

Table 8.5 and Table 8.6 show the physical characteristics and boiling point ranges for Blacktip condensate, respectively. The hydrocarbon property category and hydrocarbon persistence classification were derived from AMSA (2015a) guidelines. The classification is based on a hydrocarbon's specific gravity in combination with relevant boiling point ranges.

Table 8.5: Physical properties of Blacktip condensate (Intertek, 2009)

Physical properties	Blacktip condensate
Density (kg/m ³)	790.0 (at 15 °C)
API	46.7
Dynamic viscosity (cP)	0.975 (at 20 °C)
Pour point (°C)	-36.0
Hydrocarbon property category	Group I
Hydrocarbon persistence classification	Non-persistent


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Table 8.6: Boiling-point breakdown of Blacktip condensate (Intertek, 2009)

Oil Type	Volatiles (%)	Semi-volatiles (%)	Low volatiles (%)	Residual (%)	Aromatics (%)
Boiling point (°C)	<180 (C4 to C10)	180 to 265 (C11 to C15)	265 to 380 (C16 to C20)	>380 (>C20)	Of whole oil <380 boiling point
	Non-persistent			Persistent	
Blacktip condensate	63.6	35.0	0.4	1.0	15.8


Blacktip condensate (API 46.7) contains a low proportion (1% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures. These compounds will persist in the marine environment. The whole condensate has low asphaltene content (less than 0.5%), indicating a low tendency for the hydrocarbons to take up water to form water-in-oil emulsion over the weathering cycle.

The condensate is composed of hydrocarbons that have a wide range of boiling points and volatilities at atmospheric temperatures, and which will begin to evaporate at different rates on exposure to the atmosphere. Evaporation rates will increase with temperature, but in general about 63.6% of the hydrocarbon mass should evaporate within the first 12 hours; a further 35% should evaporate within the first 24 hours and a further 0.4% should evaporate over several days.

Weathering processes under realistic variable wind conditions are illustrated in the example mass balance weathering graph for a discrete spill of 50m³ of Blacktip condensate released at the surface, which is considered informative for this scenario. The results for the variable-wind case indicate a slightly reduced level of evaporation (94% within 24 hours) due to an increased level of entrainment (3.3% within 24 hours) (RPS, 2019b).

A weathering study on Blacktip condensate by Intertek in 2013 showed the rate of evaporation of Blacktip condensate is rapid, with 67% of the volume of the condensate lost within the first two hours and 89% by eight hours. Between eight and 72 hours, only a further 7% is lost, reaching a maximum weathering at 72 hours of 95% lost volume (Intertek, 2013) (Figure 8.1).

The weathering test showed changes in hydrocarbon composition due to evaporative loss occur in a systematic manner, with the lightest, most volatile compounds weathered first, followed by hydrocarbons with increasing boiling point (Figure 8.2). The relative percentage of wax content in Blacktip condensate increases from 4% in the original to 76% by 72 hours. Blacktip condensate was also monitored for the presence and change in the BTEX and polycyclic aromatic hydrocarbons concentration in the oil. The results are provided in Table 8.7. The results showed an overall decrease in the concentrations of what may be considered volatile aromatics, such as the BTEX compounds and naphthalene. The loss of most of this material is likely to be atmospheric, although dissolution in the water table is possible. Of the remaining polycyclic aromatic hydrocarbons identified – fluorene and phenanthrene – slight increases in the levels can be observed, possibly due to the concentration of the oil over time (Intertek, 2013).

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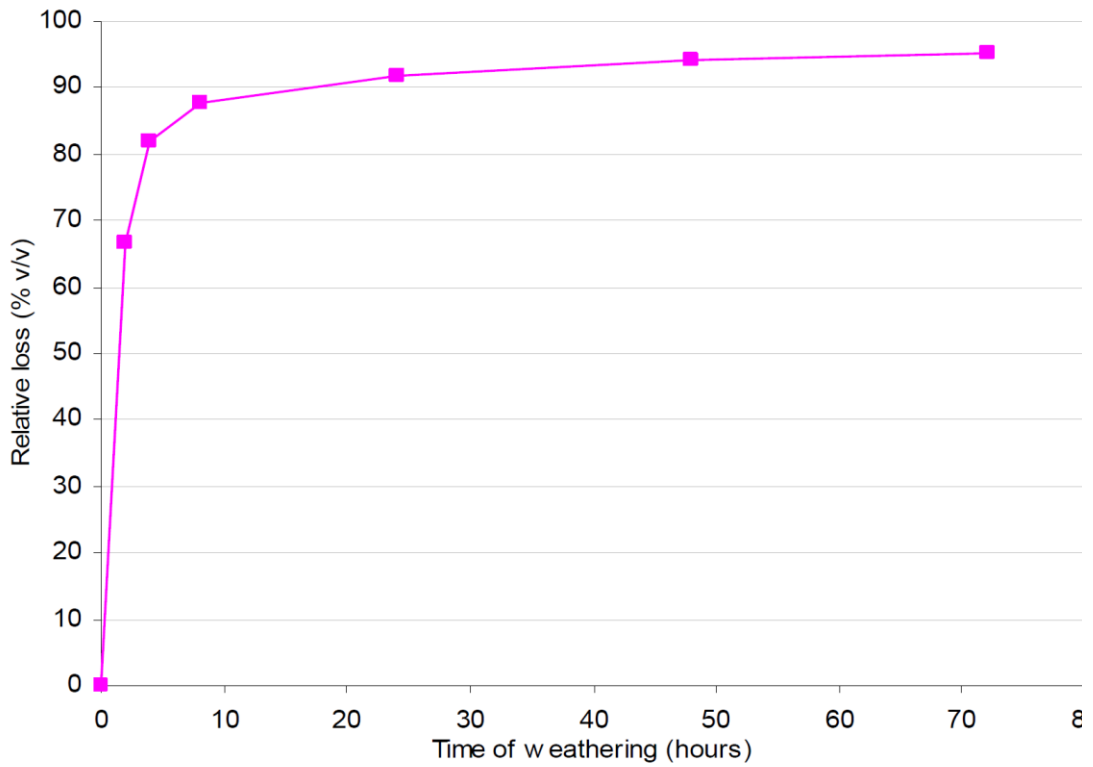



Figure 8.1: A summary of the weathering (loss) for the Blacktip condensate over 72 hours (Intertek, 2013)

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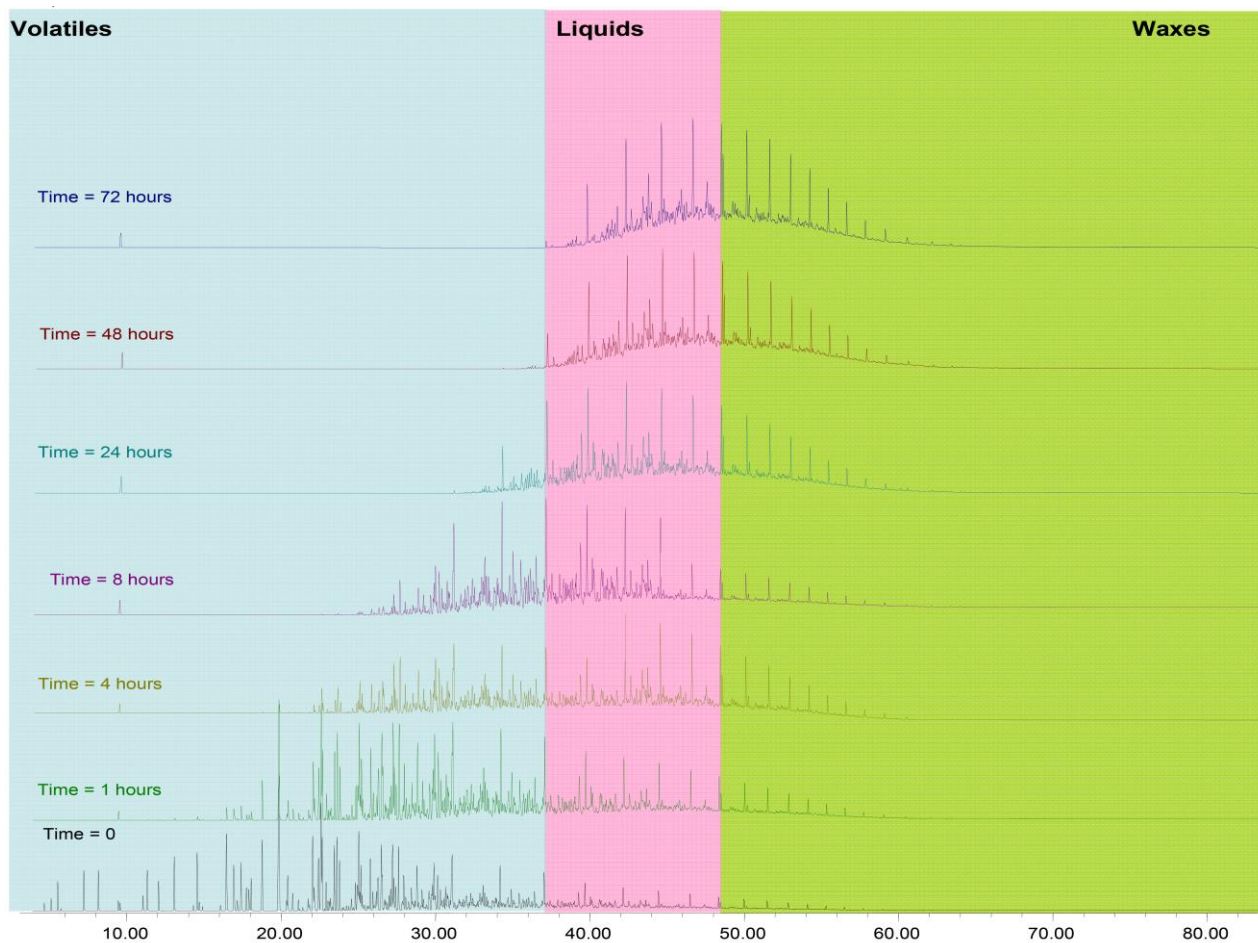


Figure 8.2: A summary of the weathering (loss) for the Blacktip condensate over 72 hours (Intertek, 2013)


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Table 8.7: Changes in benzene, toluene, ethylbenzene, xylene and polycyclic aromatic hydrocarbons content during weathering of the Blacktip condensate in winter and summer conditions over 72 hours

Compounds	Weathered Time (hours)							
	Units	0	1	4	8	24	48	72
Naphthalene	ppb	204	409	502	579	215	nd	nd
Acenaphthalene	ppb	nd	nd	nd	nd	nd	nd	nd
Acenaphthene	ppb	nd	nd	nd	nd	nd	nd	nd
9H-Fluorene	ppb	42	99	135	194	250	266	366
Phenanthrene	ppb	33	86	113	167	224	320	426
Anthracene	ppb	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	ppb	nd	nd	nd	nd	nd	nd	nd
Pyrene	ppb	nd	nd	nd	nd	nd	nd	nd
Benzo(a)anthracene	ppb	nd	nd	nd	nd	nd	nd	nd
Chrysene	ppb	nd	nd	nd	nd	nd	nd	nd
Benzo(b)fluoranthene	ppb	nd	nd	nd	nd	nd	nd	nd
Benzo(k) fluoranthene	ppb	nd	nd	nd	nd	nd	nd	nd
Benzo(a)pyrene	ppb	nd	nd	nd	nd	nd	nd	nd
Indeno(123cd) pyrene	ppb	nd	nd	nd	nd	nd	nd	nd
Dibenzo(ah)anthracene	ppb	nd	nd	nd	nd	nd	nd	nd
Benzo(ghi)perylene	ppb	nd	nd	nd	nd	nd	nd	nd
Benzene	ppm	610	nd	nd	nd	nd	nd	nd
Toluene	ppm	3338	300	33	nd	nd	nd	nd
EthylBenzene	ppm	1395	450	45	nd	nd	nd	nd
Xlyene	ppm	6429	3200	320	nd	nd	nd	nd

Note: nd = no data

8.6.2.4 Oil Spill Modelling

A 4943m³ surface condensate release was modelled by RPS (2019b) at the WHP for all seasons (annualised) and is considered appropriate, although conservative, for informing the approximate spatial extent of potential impacts from a well blowout event during the Blacktip drilling activities. Table 8.8 presents the parameters and justification used in the modelling.


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Table 8.8: Summary of parameter and justifications for condensate spill modelling from a well blowout

Parameter	Description
Number of spill simulations	100 per season
Hydrocarbon type	Blacktip condensate (see Table 8.5)
Release type	Well blowout
Total spill volume	4,943m ³ over 74 days, assuming constant flow
Spill volume justification	Open hole flowrate
Release depth	Surface
Release depth justification	Most credible spill scenario is from the surface wellheads on the WHP
Release duration	74 days
Release duration justification	See Table 8.4

The next sections summarise the modelling results.


8.6.2.5 Floating Hydrocarbon

Low Exposure Thresholds

Hydrocarbons are predicted to remain relatively localised around the release location. The maximum distance to the outer extent of the 1g/m² is predicted to be 19km (Figure 8.3).

Moderate Exposure Thresholds

Floating hydrocarbon concentrations are not predicted to exceed 10g/m² at probabilities greater than 1%.

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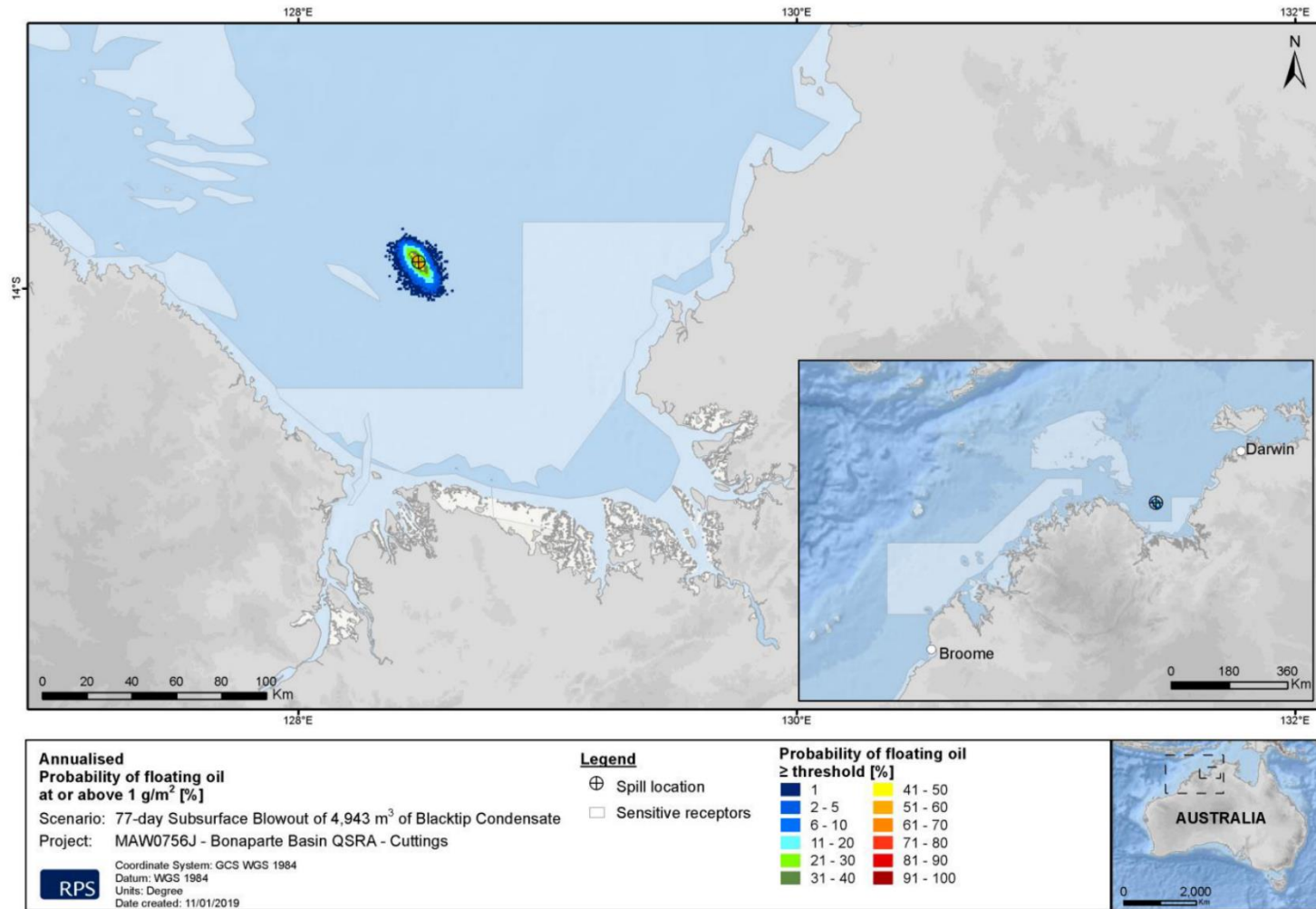



Figure 8.3: Predicted annualised probability of floating oil concentrations at or above 1g/m² resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

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8.6.2.6 Shoreline Hydrocarbon


Low and Moderate Exposure Thresholds

Kimberley Coast, Joseph Bonaparte Gulf East and Joseph Bonaparte Gulf West receptors are predicted to have a 1% probability of receiving shoreline hydrocarbon at or above 10g/m², with corresponding minimum times of arrival forecast as 47 days (1130 hours), 50 days (1194 hours) and 85 days (2049 hours), respectively (refer Figure 8.4).

A worst-case local shoreline accumulated concentration of 61g/m² and volume of 10m³ is forecast at the Joseph Bonaparte Gulf East receptor. Table 8.9 presents shoreline hydrocarbon outcomes at other sensitive receptors contacted.

Table 8.9: Expected annualised shoreline oil outcomes at sensitive receptors resulting from a 74-day surface release of Blacktip condensate

Receptor	Maximum accumulated concentration (g/m ²)	Maximum accumulated volume (m ³)
Joseph Bonaparte Gulf East	61	10
Joseph Bonaparte Gulf West	11	<1
Kimberley Coast	26	<1

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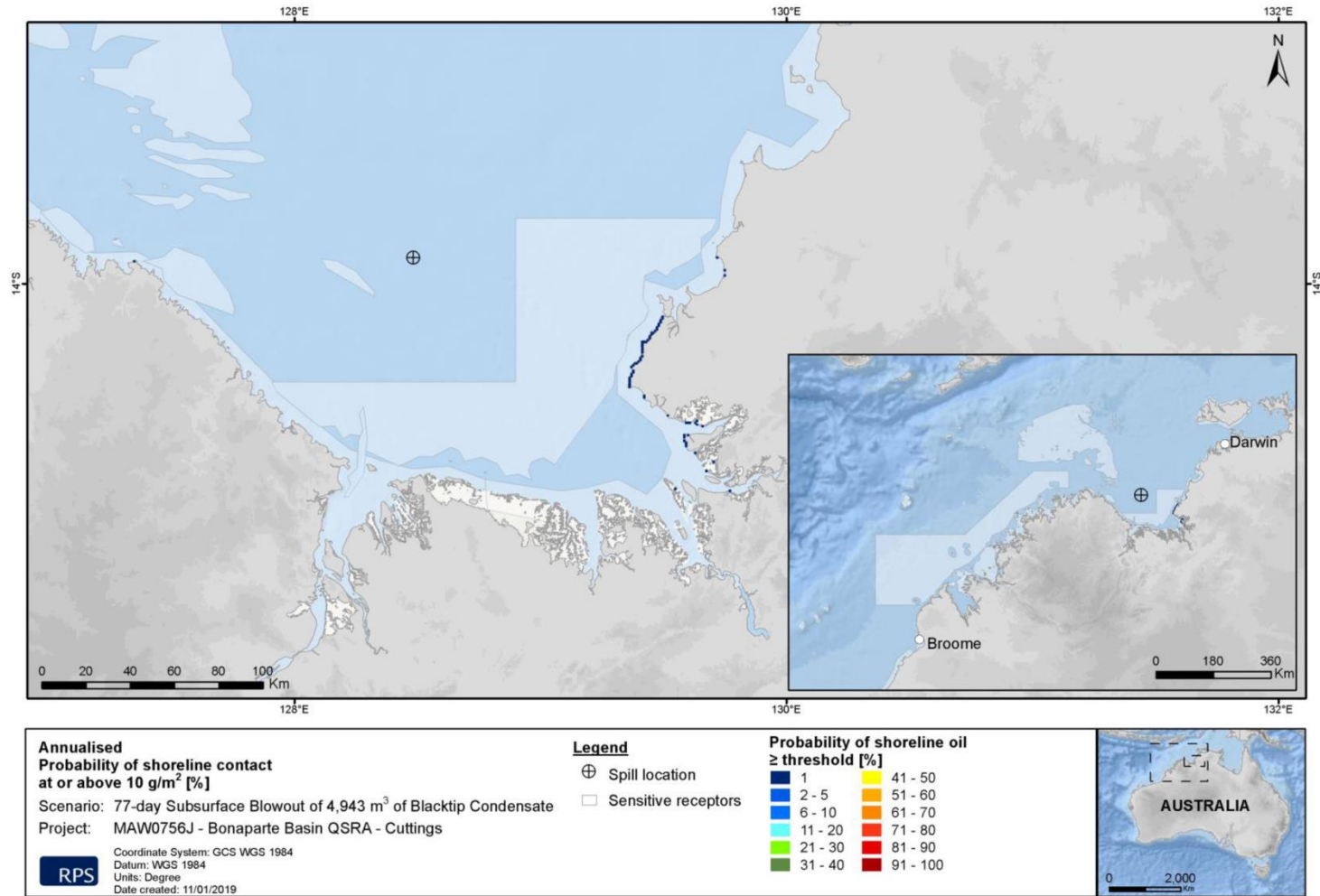



Figure 8.4: Predicted annualised probability of shoreline oil concentrations at or above 10g/m² resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

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8.6.2.7 Entrained Hydrocarbon


Low Exposure Threshold

Entrained oil concentrations at or greater than 10ppb could travel up to 975km from the release location (Figure 8.5).

The probabilities of contact by entrained oil concentrations are predicted to be greatest at the Carbonate Bank and Terrace System of the Sahul Shelf KEF (84% at 10ppb), Joseph Bonaparte Gulf AMP (31% at 10ppb), Kimberley AMP (18% at 10ppb) and the Kimberley Coast (17% at 10ppb) (Table 8.10).

Table 8.10: Expected annualised entrained oil outcomes (≥ 10 ppb) at receptors resulting from a 74-day surface release of Blacktip condensate

Receptor	Probability (%) of entrained hydrocarbon	Minimum time to receptor waters (hours)	Maximum entrained hydrocarbon concentration (ppb)
Joseph Bonaparte Gulf East	1	844	20
Joseph Bonaparte Gulf West	17	104	77
Kimberley Coast	17	107	110
Eugene McDermott Shoal	1	2106	11
Camden Sound	2	630	33
King Sound	2	677	37
North West Coast	1	1163	31
Joseph Bonaparte Gulf AMP	31	1	186
Carbonate Bank and Terrace System of the Sahul Shelf	84	26	256
Kimberley AMP	18	95	104

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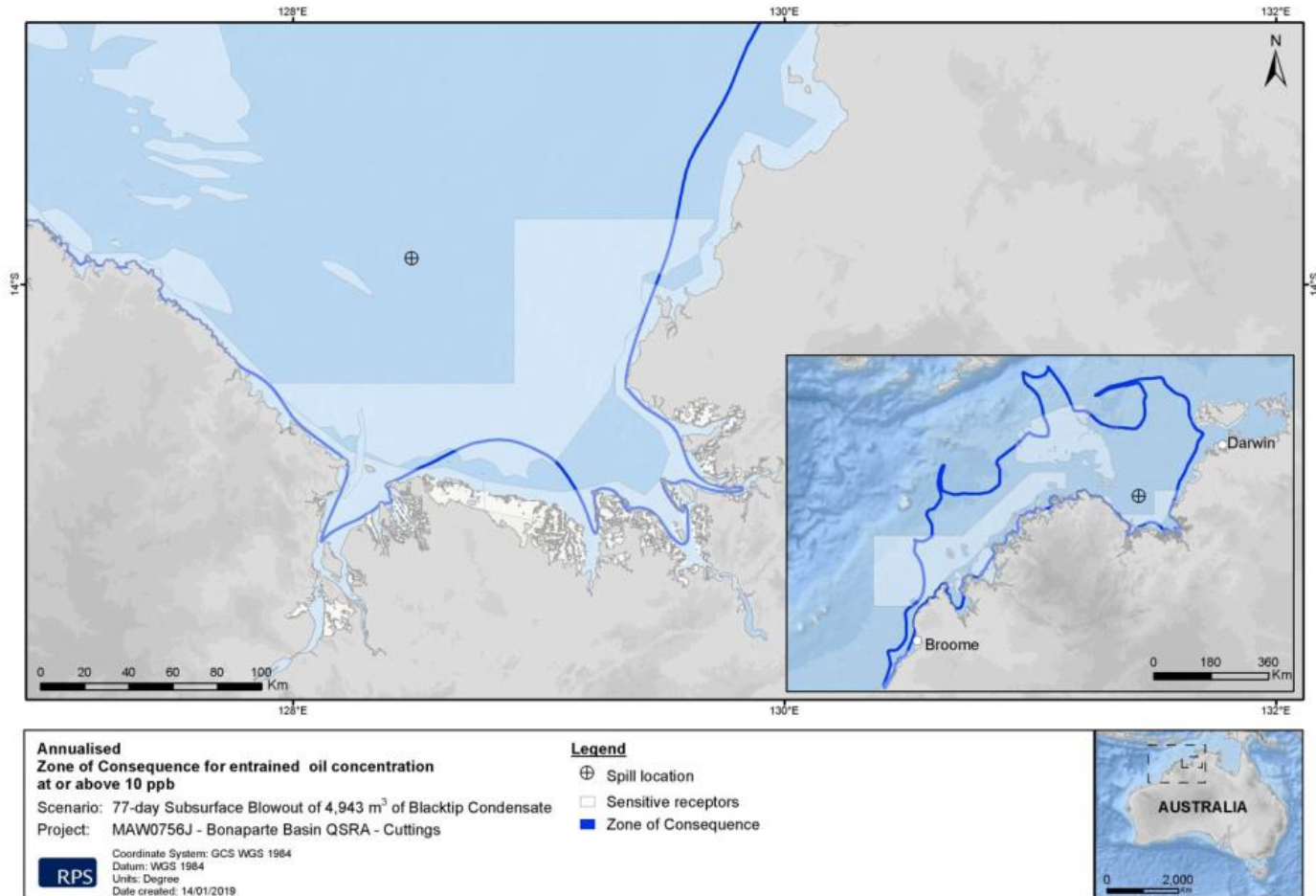



Figure 8.5: Predicted annualised environment that may be affected by entrained oil concentrations at or above 10ppb resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

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Moderate Exposure Threshold

Entrained oil concentrations at or greater than 100ppb could travel up to 310km from the release location (Figure 8.6). Concentrations are not predicted to exceed 500ppb. Probability contours calculated for entrained oil at or greater than 100ppb reveal oil will typically migrate in longshore directions towards Darwin to the north and Broome to the south, with each of these opposing trajectories more likely in certain seasons (RPS, 2019b).


The probabilities of contact by entrained oil concentrations are predicted to be greatest at the Carbonate Bank and Terrace System of the Sahul Shelf KEF (4% at 100ppb), Joseph Bonaparte Gulf AMP (1% at 100ppb), Kimberley AMP (1% at 100ppb) and the Kimberley Coast (1% at 100ppb) (Table 8.11).

Minimum times of arrival at the 100ppb entrained oil thresholds are predicted for the Carbonate Bank and Terrace System of the Sahul Shelf KEF (34 hours at 100ppb), Joseph Bonaparte Gulf AMP (319 hours at 100ppb), the Kimberley AMP (1077 hours at 100ppb) and the Kimberley Coast (671 hours at 100ppb).

The worst-case instantaneous entrained oil concentration at any receptor is predicted at the Carbonate Bank and Terrace System of the Sahul Shelf KEF as 256ppb.

Table 8.11: Expected annualised entrained oil outcomes (≥ 100 ppb) at receptors resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

Receptor	Probability (%) of entrained hydrocarbon	Minimum time to receptor waters (hours)	Maximum entrained hydrocarbon concentration (ppb)
Carbonate Bank and Terrace System of the Sahul Shelf KEF	4	34	256
Joseph Bonaparte Gulf AMP	1	319	186
Kimberley AMP	1	1077	104
Kimberley Coast	1	671	110

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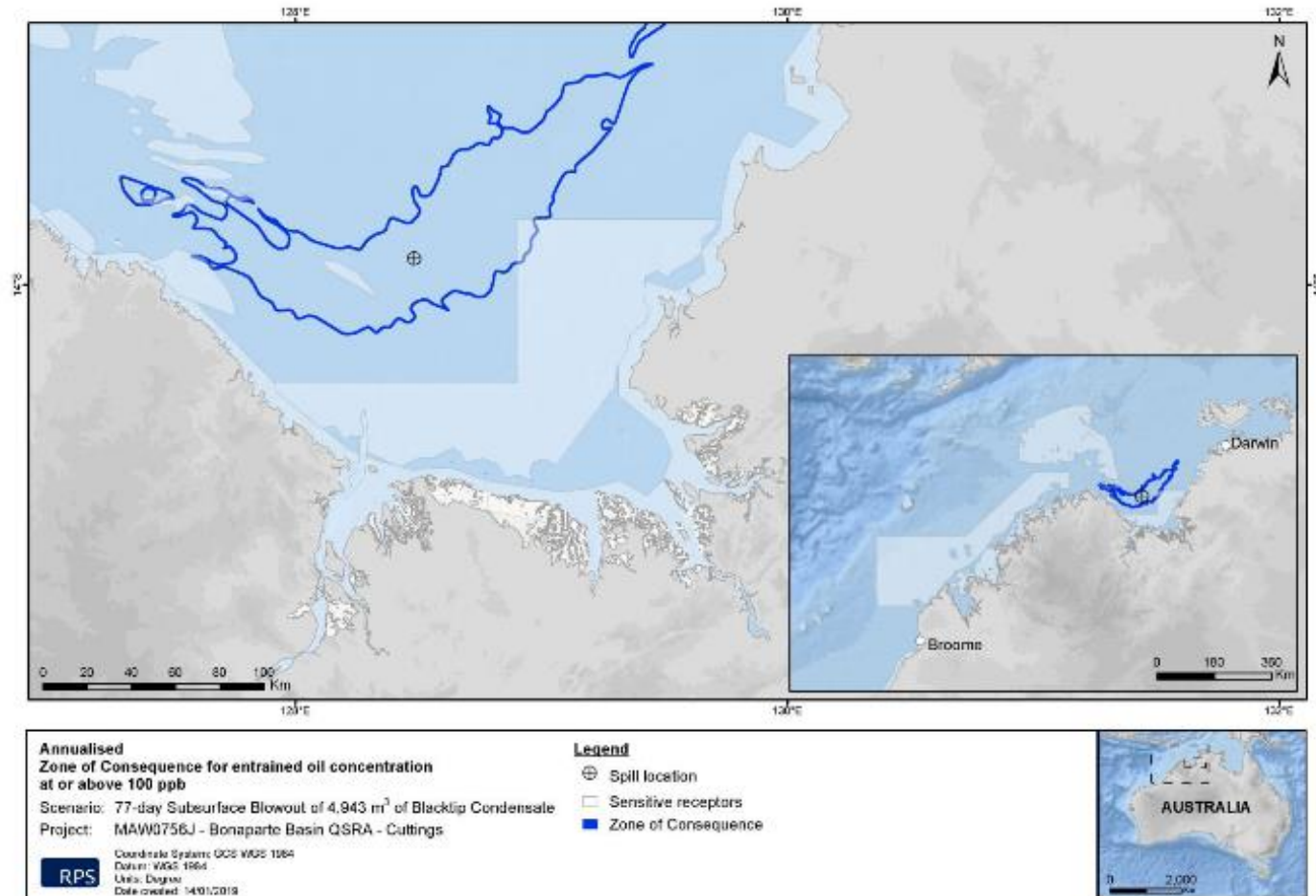



Figure 8.6: Predicted annualised environment that may be affected by entrained oil concentrations at or above 100ppb resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

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8.6.2.8 Dissolved Aromatic Hydrocarbons

Low Exposure Threshold


Dissolved aromatic hydrocarbon concentrations at or greater than 6ppb could travel up to 532km from the release location. The probability contours calculated for dissolved aromatic hydrocarbons reveal the directions of travel follow those of the entrained oil (Figure 8.7).

The probabilities of contact by dissolved aromatic hydrocarbon concentrations are predicted to be greatest at the Carbonate Bank and Terrace System of the Sahul Shelf KEF, Joseph Bonaparte Gulf AMP, Joseph Bonaparte Gulf West and Kimberley AMP, with probabilities of 28%, 3%, 1% and 1% at the 6ppb threshold, respectively (Table 8.12).

The worst-case instantaneous dissolved aromatic hydrocarbon concentration at any receptor is predicted at the Carbonate Bank and Terrace System of the Sahul Shelf KEF as 44ppb.

Table 8.12: Expected annualised dissolved aromatic hydrocarbon (>6ppb) outcomes at sensitive receptors resulting from a 74-day surface release of Blacktip condensate at a Blacktip well (RPS, 2019b)

Receptor	Probability (%) of dissolved aromatic hydrocarbon concentration contact	Maximum entrained hydrocarbon concentration (ppb)
Carbonate Bank and Terrace System of the Sahul Shelf KEF	28	44
Joseph Bonaparte Gulf AMP	3	20
Joseph Bonaparte Gulf West	1	7
Kimberley AMP	1	26

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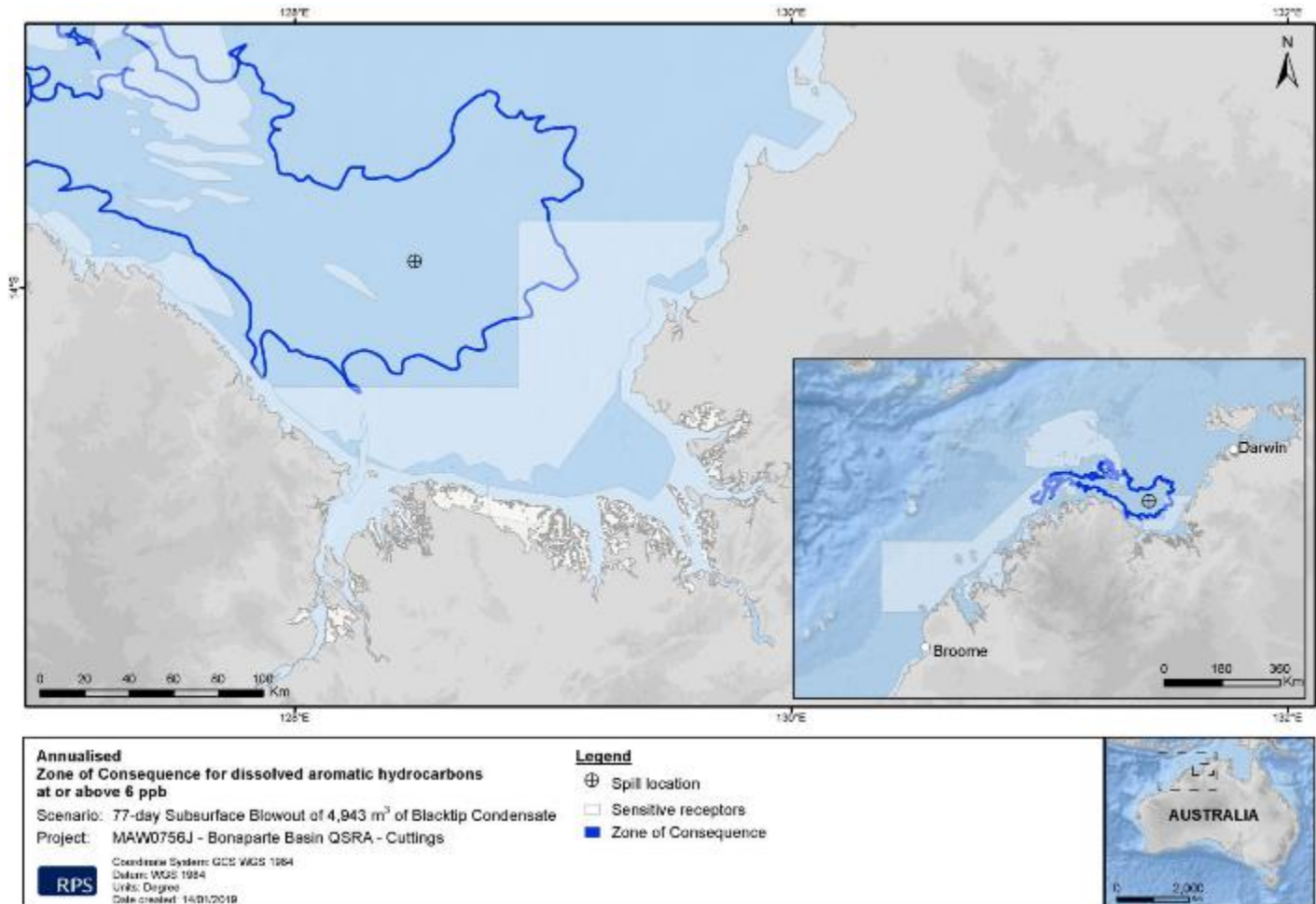




Figure 8.7: Predicted annualised environment that may be affected by dissolved aromatic hydrocarbon concentrations at or above 6ppb resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

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Moderate Exposure Threshold

Dissolved aromatic hydrocarbon concentrations at or greater than 50ppb could travel up to 24km from the release location (Figure 8.8). No sensitive receptors are contacted.

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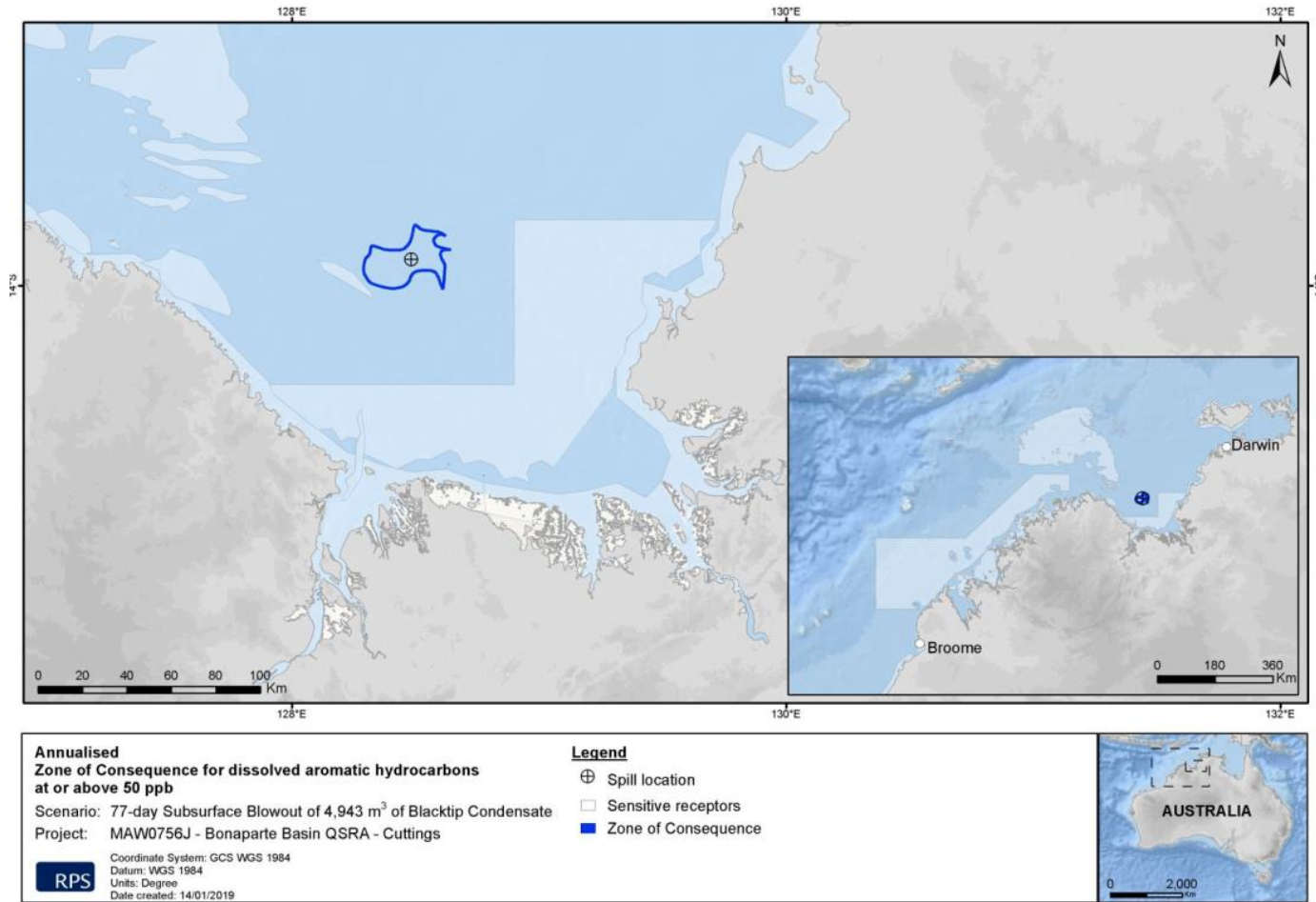



Figure 8.8: Predicted annualised environment that may be affected by dissolved aromatic hydrocarbon concentrations at or above 50ppb resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

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8.6.3 Potential Environmental Impact

A loss of 4943m³ Blacktip condensate to the marine environment would result in a localised reduction in water quality on the sea surface. As described above, the maximum distance a surface spill could travel at 1g/m² is predicted to be 19km. Entrained oil concentrations at the 10ppb thresholds could potentially be found up to 975km from the release location, which forms the extent of the EMBA for the well blowout event.

Kimberley Coast, JBG East and JBG West receptors are predicted to have a 1% probability of receiving shoreline oil at 10g/m², with corresponding minimum times of arrival forecast as 47 days (1130 hours), 50 days (1194 hours) and 85 days (2049 hours), respectively. Maximum accumulated shoreline concentration is predicted to be 61g/m² at JBG East; therefore, shoreline impact is not anticipated, as the ≥100g/m² threshold based on French-McCay (2009) that could impact the survival and reproductive capacity of intertidal benthic epifaunal has not been met and the volumes of accumulated hydrocarbons (10m³) are relatively minor. It is therefore not anticipated shorelines will be significantly impacted from a well blowout event.


Several sensitive receptors have the potential to receive concentrations of entrained (at 10ppb and 100ppb thresholds) and dissolved aromatics (at 6ppb), at low probabilities and concentrations. Potential impacts, however, may include contamination of sediments, impacts to benthic fauna and habitats, and associated impacts to demersal fish populations, resulting in reduced biodiversity (refer Table 8.13).

Table 8.13 further describes the nature and scale of the hydrocarbon spills for this activity on marine fauna, and socioeconomic receptors found within the EMBA and moderate exposure area.

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Table 8.13: Nature and scale of hydrocarbon spills on environment and socioeconomic receptors found within the moderate threshold (zone of potential impact) and environment that may be affected


Receptor	Impacts of a hydrocarbon spill (Blacktip condensate and MDO)		
	Surface	Entrained and dissolved aromatic hydrocarbons	Shoreline
Marine fauna			
Plankton (including zooplankton; fish and coral larvae)	Surface hydrocarbons will have no impact on plankton as they are present in the water column only.	<p><u>Moderate threshold</u></p> <p>Modelling results show the hydrocarbon concentrations are greatest in the upper portion of the water column and surface. Effects to plankton are expected to be greatest in the upper 10m of the water column and areas close to the spill source where hydrocarbon concentrations are likely to be highest.</p> <p>Direct exposure of plankton to hydrocarbon may result in lethal or sublethal impacts to plankton. Although studies have shown no obvious influence of oil spills on plankton, especially on community structure (Varela <i>et al.</i>, 2006), which could be a result of rapid replacement of stocks from adjacent areas due to water circulation, it will usually prevent any impact at the population or community level (Batten <i>et al.</i>, 1998). Other studies, however, have found the concentrations of phytoplankton reduced in the short term, and in the medium term, as outbreaks of algal blooms occurred where the Chlorophyll-a concentration increased (Lee <i>et al.</i>, 2009; Sheng <i>et al.</i>, 2011; Pan <i>et al.</i>, 2012). Phytoplankton blooms generally occur during the growth season of phytoplankton, under warmer weather conditions (Tang <i>et al.</i>, 2019). Small amounts of oil spills are unable to trigger blooms in the open ocean; however, in low-energy environments such as coastal coves, large-scale oil spills could lead to blooms (Zhou <i>et al.</i>, 2014).</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts to plankton. The low threshold exposure value applied to the EMBA represents the very lowest concentration and corresponds generally with the lowest trigger levels for chronic exposure for entrained hydrocarbons in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000).</p>	N/A
	<p><u>Moderate threshold</u></p> <p>Plankton may be exposed to hydrocarbons. However, considering the spatial and temporal variation of phytoplankton and zooplankton communities within marine waters, significant impacts to plankton communities are unlikely. The concentrations of hydrocarbons in the water column will decrease over time once the release has stopped, due to processes such as dispersion, dilution, physical and biological degradation, and evaporation. Plankton are expected to rapidly recover on cessation of hydrocarbon release.</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts to plankton.</p>	N/A	

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Receptor	Impacts of a hydrocarbon spill (Blacktip condensate and MDO)		
	Surface	Entrained and dissolved aromatic hydrocarbons	Shoreline
Marine mammals	<p><u>Moderate threshold</u></p> <p>Marine mammals can come into contact with surface hydrocarbon when they surface to breathe. Marine mammals can be exposed to hydrocarbons externally – for example, suffering external oiling when swimming through surface slick or entrained hydrocarbon – or internally, such as swallowing the hydrocarbon, consuming oil affected prey, or inhaling volatile oil related compounds.</p> <p>The hydrocarbons associated with potential Blacktip spills will rapidly evaporate and disperse. Condensate modelling in the blowout scenario indicates the maximum distance to the outer extent of the 1g/m² surface hydrocarbons is predicted to be 19km and floating hydrocarbon concentrations are not predicted to exceed 10g/m² and 25g/m² thresholds at probabilities greater than 1%. It is therefore predicted the impact area from surface hydrocarbons is confined to around the spill site and not the wider Joseph Bonaparte region. French-McCay (2009) identifies that a 10 to 25m oil thickness threshold has the potential to impart a lethal dose to species; however, also estimates a probability of 0.1% mortality if they encounter these thresholds based on the proportion of time spent at the surface.</p> <p>Behavioural disturbance – as in, avoiding spilled hydrocarbons – in some instances has been observed for several species of cetacean, suggesting they have the ability to detect and avoid surface slicks. Other observations have noted marine mammals have swum directly into areas affected by hydrocarbons without appearing to detect or actively avoid the area (Volkman <i>et al.</i>, 1994; NOAA, 2017).</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts to marine mammals.</p>	<p><u>Moderate threshold</u></p> <p>Marine mammals can come into contact with dissolved and entrained hydrocarbons in the water column, particularly the upper portion. Direct physical contact with entrained or dissolved aromatic hydrocarbons may result in surface fouling, ingestion of hydrocarbons (from prey, water and sediments), and aspiration of oily water or droplets. Effects such as irritation of eyes and mouth and potential illness may occur.</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts.</p>	N/A

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Receptor	Impacts of a hydrocarbon spill (Blacktip condensate and MDO)		
	Surface	Entrained and dissolved aromatic hydrocarbons	Shoreline
	<p><u>Moderate threshold</u></p> <p>Ten migratory marine mammal species were identified by the EPBC Protected Matters search (Section 4.4). Of these, three are listed as threatened and one as vulnerable:</p> <ul style="list-style-type: none"> • Humpback whale: No BIA for humpback breeding and calving is within the moderate exposure area (nearest BIA is 300km south-west). It is possible, but unlikely humpback whales may be present; however, significant numbers are not expected. Given the rapid evaporation of hydrocarbons, humpback whales are unlikely to be impacted. • Blue whales: Blue whales show preference for water depths >500m, far in excess of the Joseph Bonaparte Gulf. However, it is possible a small number of individuals may encounter entrained hydrocarbons. The absence of any known feeding, resting, or breeding areas in the Joseph Bonaparte Gulf means significant numbers are unlikely to be impacted. • Fin whale: In the unlikely event of a hydrocarbon spill, transient individuals may encounter entrained and surface hydrocarbons. The moderate threshold area is 500km from the BIA for pygmy blue whale distribution and 500km from the migration BIA. • Sei whale: In the unlikely event of a hydrocarbons spill, transient individuals may encounter entrained and surface hydrocarbons. However, the absence of any known feeding, resting or breeding areas in the moderate threshold area means significant numbers are unlikely to be impacted. <p>Other migratory marine mammals may encounter either surface or entrained hydrocarbons; however, the absence of any known feeding, resting, or breeding areas means significant numbers are unlikely to be impacted.</p> <ul style="list-style-type: none"> • Dugong: Dugongs have been reported to be present along the coastline from Cape Hay to Point Pearce, with main concentrations of species around Dorcherty Island (Woodside, 2004), 10km to the east of the moderate threshold area. However, seagrass habitat is limited (Woodside, 2004) and the Joseph Bonaparte Gulf is therefore not expected to provide a habitat for dugong. Significant numbers are not expected to be impacted by surface, entrained or dissolved aromatic hydrocarbons. • Indo-Pacific humpback dolphin: Given the shallow water depths (<100m) in the moderate threshold area and the Operational Area (20 to 50 m), as well as the distance from shore that the species have been observed (up to 55km from shore) it is possible that Indo-Pacific humpback dolphins may transit through the moderate threshold area. However significant numbers are not expected to be exposed to surface, entrained, or dissolved aromatic hydrocarbons. • Australian snubfin dolphin: Sightings indicate that Australian snubfin dolphins occur mostly in protected shallow coast waters, and near river and creek mouths (Parra, 2006; Parra & Corkeron, 2001; Parra <i>et al.</i>, 2002). The species is likely to occur in the nearshore areas of the Joseph Bonaparte Gulf. Significant numbers are not expected to be impacted by surface, entrained, or dissolved aromatic hydrocarbons, particularly given the majority of hydrocarbons will remain in offshore waters. <p>Hydrocarbons are expected to weather rapidly when released to the environment. Relatively fresh hydrocarbons (closer to the release location) are considered to have the greatest potential for impact. Given the wide distribution of marine mammal species in the region and the nature of the potential impacts, which are likely to be temporary and limited to a number of individuals, impact to an entire population or the population's overall viability is not anticipated.</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts to marine mammal. Marine mammals within the EMBA have been identified in Section 4.4 and further described in Appendix B.</p>		N/A

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Receptor	Impacts of a hydrocarbon spill (Blacktip condensate and MDO)		
	Surface	Entrained and dissolved aromatic hydrocarbons	Shoreline
Marine reptiles	<p><u>Moderate threshold</u></p> <p>Marine turtles may be exposed to surface hydrocarbons when at the sea surface, such as breathing and basking, and are not expected to avoid floating hydrocarbon slicks. Effects include irritation of eyes/mouth and potential illness. Irritation of mucous membranes in the nose, throat and eyes has been observed to cause inflammation and infection (NOAA, 2010).</p> <p>Surface respiration could lead to accidental ingestion of hydrocarbons or result in the coating of sensitive epidermal surfaces and may also impact turtles if they inhale toxic vapours. This can lead to lung damage and congestion, interstitial emphysema, inhalant pneumonia and neurological impairment (NOAA, 2010).</p> <p>The hydrocarbons associated with potential Blacktip spills (MDO, condensate) will rapidly evaporate and disperse. Condensate modelling in the blowout scenario indicates the maximum distance to the outer extent of the 1g/m² surface hydrocarbons is predicted to be 19km and floating oil concentrations are not predicted to exceed 10g/m² and 25g/m² thresholds at probabilities greater than 1%. It is therefore predicted the impact area from surface hydrocarbons is confined to around the spill site and not the wider JBG region.</p> <p>Other spill scenarios for surface impacts are considered to be within the above-mentioned distances.</p> <p><u>EMBA (low thresholds)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts.</p>	<p><u>Moderate threshold</u></p> <p>Marine turtles can come into contact with dissolved and entrained hydrocarbons in the water column, particularly the upper water column. Contact with hydrocarbons may result in irritation of mucous membranes in the nose, throat and eyes subsequently causing inflammation and infection (NOAA, 2010).</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts.</p>	<p>Shoreline accumulated hydrocarbons may result in toxic impacts to turtle nesting habitat potentially impacting adults, eggs, and hatchlings.</p> <p>There is flatback turtle nesting activity in the area of Northern Yelcherr Beach and Injin Beach to the north (10km from the Operational Area) and along the coastline from Cape Hay to Pearce Point (10km to the east of the Operational Area). A significant flatback turtle nesting area occurs on the north side of Cape Domett, WA (75km to the south of the Operational Area and nesting sites are also located on Lacrosse Island and Pelican Island in the same region. Stranded hydrocarbons are anticipated to be <1m³ on the north Kimberley coastline where these beaches are located. Given the volume of stranded hydrocarbon, significant impacts are not anticipated. Other areas of the Kimberly coastline (including Beagle Bay, Dampier Peninsula – as reported by the Nyul-Nyul Traditional Owners) are also reported as a turtle nesting beaches, however shoreline accumulation is not predicted (offshore waters may be subject to in-water hydrocarbons at low thresholds only).</p> <p>Turtle monitoring was undertaken during the construction of the Blacktip facilities in 2009. This confirmed a maximum of 12 nests being laid on Yelcherr Beach. These beaches have the potential to receive very low volumes of condensate hydrocarbon spill (<10m³ across all JBG East shorelines).</p> <p>While the impacts to individual nesting turtles, eggs and hatchlings may be severe, the small volumes and quick evaporation of Blacktip condensate and the short duration of persistence means the number of individuals potentially affected would be very low and population level impacts will not occur.</p>
	<p><u>Moderate threshold</u></p> <p>Seven species of threatened marine reptile were identified as possibly being impacted by a hydrocarbon spill.</p> <p>Short-nosed sea snake, flatback, hawksbill, leatherback, green, olive ridley and loggerhead turtles are widely dispersed in the JBG and, in the unlikely event of a hydrocarbon spill occurring, individuals traversing open water may come into contact with entrained, dissolved aromatic or surface hydrocarbons. Given the distance to turtle nesting beaches, should a spill occur during hatchling season, a small number of hatchlings could be contacted. However, MDO and condensate spills will quickly weather and evaporate and the number of hatchlings or transient adults encountering hydrocarbons is likely to be low and would not represent a significant proportion of the local population.</p> <p>Given the wide distribution of marine reptile species and the nature of the potential impacts, which are likely to be temporary and limited to a number of individuals, impact to an entire population or a population's overall viability is not anticipated.</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts to marine reptiles. Marine reptiles within the EMBA have been identified in Section 4.4, and further described in Appendix B.</p>		

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Receptor	Impacts of a hydrocarbon spill (Blacktip condensate and MDO)		
	Surface	Entrained and dissolved aromatic hydrocarbons	Shoreline
Seabirds	<p><u>Moderate threshold</u></p> <p>Seabirds are particularly vulnerable to surface hydrocarbons, as most fish survive beneath floating slicks and will continue to attract foraging seabirds, which typically do not exhibit avoidance behaviour. Smothering of feathers can lead to reduced water proofing and ingestion while preening. In addition, hydrocarbons can erode feathers causing chemical damage to the feather structure that subsequently affects ability to thermoregulate and maintain buoyancy on water.</p> <p>The hydrocarbons associated with potential Blacktip spills (MDO, condensate) will rapidly evaporate and disperse. Condensate modelling in the blowout scenario indicates the maximum distance to the outer extent of the 1g/m² surface hydrocarbons is predicted to be 19km and floating oil concentrations are not predicted to exceed 10g/m² and 25g/m² thresholds at probabilities greater than 1%. It is therefore predicted that the impact area from surface hydrocarbons is confined to around the spill site and not the wider JBG region.</p>	<p><u>EMBA (low threshold)</u></p> <p>Seabirds may encounter entrained and dissolved aromatics while diving and foraging leading to physical and toxic effects such as irritation of eyes/mouth and potential illness.</p>	<p>Shorebirds are generally not as susceptible to direct oiling when compared to seabirds and accumulated hydrocarbons will evaporate quickly in the temperatures experienced in the JBG. However, reduced prey may be available to foraging shorebirds due to mortality or avoidance, and nesting individuals may be temporarily disrupted.</p> <p>A variety of endemic and migratory bird species are dependent on the productive feeding grounds of the NT mangroves and intertidal flats. Some species are mangrove specialists, such as the mangrove robin, white-breasted whistler, mangrove honeyeater and mangrove kingfisher. Wading and waterbirds that make use of mangroves include jabiru and various egret and heron species.</p> <p>Beaches have the potential to receive very low volumes of condensate (<10m³ across all JBG East shorelines). Small volumes and quick evaporation of the potentially stranded hydrocarbons and the short duration of persistence means the number of individuals potentially affected would be low.</p>
	<p><u>Moderate threshold</u></p> <p>As identified in Section 4.4, a number of seabird and shorebird species may occur in the Operational Area and over the wider region. The species that have pollution listed in their conservation advice as a key threat are:</p> <ul style="list-style-type: none"> • Abbott's booby • curlew sandpiper • red knot • eastern curlew • bar-tailed godwit (baueri) • northern Siberian bar-tailed godwit • Australian painted snipe. <p>Due to the quick evaporation and dispersion of the hydrocarbons, significant impacts are not anticipated. Condensate modelling in the blowout scenario indicates that the maximum distance to the outer extent of the 1g/m² surface hydrocarbons is predicted to be 19km and floating oil concentrations are not predicted to exceed 10g/m² and 25g/m² thresholds at probabilities greater than 1%. While the Great Frigatebird, Lesser Frigatebird, Roseate Tern, and Red-footed Booby have BIAs for breeding over the moderate threshold, these areas do not overlap the surface hydrocarbon and are species are unlikely to be significantly impacted.</p> <p>The quick weathering of the hydrocarbons (MDO and Blacktip condensate) limits the area of surface exposure. Impacts to seabirds in offshore waters are expected to primarily consist of effects, such as reduced prey abundance.</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts to seabirds. Seabirds within the EMBA have been identified Section 4.4, and further described in Appendix B.</p>		

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Receptor	Impacts of a hydrocarbon spill (Blacktip condensate and MDO)		
	Surface	Entrained and dissolved aromatic hydrocarbons	Shoreline
Fish and sharks	<p><u>Moderate threshold</u></p> <p>Since the MDO and Blacktip condensate are expected to fully disperse and evaporate within eight hours and 24 hours (90% evaporated), the probability of prolonged exposure to a surface slick by fish and shark species is very low at sea surface. Condensate modelling in the blowout scenario indicates the maximum distance to the outer extent of the 1g/m² surface hydrocarbons is predicted to be 19km and floating oil concentrations are not predicted to exceed 10g/m² and 25g/m² thresholds at probabilities greater than 1%.</p> <p>As fish and sharks dwell in the water column, impacts are most likely from the entrained hydrocarbons, through the pathways of ingestion or the coating of gill structures. This could lead to respiratory problems or accumulation of hydrocarbons in tissues. In the worst instance, this could lead to mortality or sub-lethal stress.</p>	<p><u>Moderate threshold</u></p> <p>Hydrocarbon droplets can physically affect fish and sharks exposed for an extended duration (weeks to months). Smothering through 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.</p> <p>Site-attached fish, such as reef fish, have small home ranges and are at higher risk from hydrocarbon exposure than more wide-ranging species. Effects will be greatest in the upper 10m of the water column and areas close to the spill source where hydrocarbon concentrations are predicted to be highest.</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts.</p>	N/A
<p><u>Moderate threshold</u></p> <p>The JBG supports a diverse assemblage of fish, particularly in shallower water near the mainland. As identified in Section 4.4, a number of fish and shark species may occur in the Operational Area and over the wider region. Given the wide distribution of fish species in the region and the nature of the potential impacts, which are likely to be temporary and limited to a number of individuals, impact to an entire population or a population's overall viability is not anticipated.</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts to fish and sharks. Fish and sharks within the EMBA have been identified in Section 4.4, and further described in Appendix B. Exposure to entrained and dissolved hydrocarbons could result in the accumulation of oil in fish tissues to the extent that could result in hydrocarbon taint of fish flesh. This is discussed under the Socioeconomic section of this table. An exposure at the low threshold could have some potential slight negative effects if the receptor is exposed for a significant duration.</p>			
Benthic habitats			
Benthic habitats	<p>Benthic habitats within and in proximity to the Operational Area are expected to consist of predominantly burrowers/crinoids, filter feeders and macroalgae, with a substantial portion of the area also supporting no benthic habitat. Hydrocarbon exposure at or above moderate exposure thresholds are not expected to exceed depths of approximately 25 m; therefore, limited direct sediment contact is predicted to occur in the deeper offshore waters.</p> <p>Benthic habitats and communities may be exposed to in-water (entrained and dissolved) hydrocarbons in shallow and nearshore areas and may be subject to acute and chronic toxic effects. Many benthic fauna species have planktonic larval phases, such as corals, echinoderms and sponges, which produce very high numbers of larvae, which are more susceptible to hydrocarbon exposure. Hydrocarbon releases may result in increased mortality of benthic fauna, particularly during larvae stages, which are also subject to high natural mortality; however, this is not expected to result in population-scale impacts.</p>		
Shoreline habitats			
Sandy beaches	<p>Typically, sandy beach ecosystems are attributable to the benthic invertebrate fauna – such as polychaetes, molluscs, marine crustaceans, semi terrestrial crustaceans and insects – inhabiting the sediments. However, sandy beaches also provide important habitats for nesting turtles, breeding and foraging seabirds, and shorebirds.</p> <p>There is a very low probability of receiving shoreline oil at 10g/m² (<10m³ across all shorelines). Given the relatively small volumes potentially making contact with shorelines, and the rapid evaporation of hydrocarbons, impacts are expected to be temporary and slight. Contact at <10g/m² is anticipated to result in a minor reduction in visual amenity of shorelines only.</p>		
Intertidal/subtidal habitats			
Intertidal reefs (including coral communities, intertidal limestone pavement and macroalgae communities)	<p><u>Moderate threshold</u></p> <p>Physical effects from entrained oil have the potential to coat contacted coral reefs. The phenomena of smothering of exposed coral surfaces or polyps by oil spills has only been reported where very large oil spill quantities, or very sticky oil slicks, have been encountered. Response to hydrocarbon exposure can include impaired feeding, fertilisation, larval settlement and metamorphosis, larval and tissue death, and decreased growth rates. Entrained oil also has the potential to impact reef fauna (fish, turtles and marine mammals), as outlined in rows above.</p> <p>Significant impacts to intertidal reef habitats are not expected, due to the quick dispersal and evaporation of hydrocarbons in the marine environment and the low concentrations of entrained hydrocarbon which could contact the intertidal areas of the Kimberley (less than 110ppm, see Table 8.11). Impacts to species associated with intertidal habitats are assessed above.</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts to intertidal reefs.</p>		

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Receptor	Impacts of a hydrocarbon spill (Blacktip condensate and MDO)		
	Surface	Entrained and dissolved aromatic hydrocarbons	Shoreline
Submerged reefs	<p><u>Moderate threshold</u></p> <p>Submerged reefs and shallow shoals are found at the Carbonate Bank and Terrace System of the Sahul Shelf KEF. The likelihood of surface hydrocarbons contacting submerged reefs and shoals is low, largely due to the distance between the sea surface and the submerged habitat. Modelling results show the hydrocarbon concentrations are not expected to exceed depths of approximately 25m, with higher concentrations in the upper portion of the water column and surface.</p> <p>Physical effects from entrained oil have the potential to coat contacted coral reefs. The phenomena of smothering of exposed coral surfaces or polyps by oil spills has only been reported where very large oil spill quantities, or very sticky oil slicks, have been encountered. Response to hydrocarbon exposure can include impaired feeding, fertilisation, larval settlement, and metamorphosis, including larval and tissue death and decreased growth rates (Villanueva <i>et al.</i>, 2008).</p> <p>Filter feeders such as molluscs are especially liable to ingest oil with lethal and various sub-lethal effects. This includes alteration in respiration rates, decreases in filter-feeding activity, reduced growth rates, biochemical effects, increased predation, reproductive failure, and mechanical destruction by waves due to inability to maintain a hold on substrate (Connell & Miller, 1981). Entrained oil also has the potential to impact marine fauna (fish, turtles, marine mammals), as outlined in rows above. Impacts are expected to be temporary and slight.</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts to submerged reefs. Submerged reefs that may be contacted by entrained hydrocarbons have been identified in Table 8.11. Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts. The low threshold exposure value applied to the EMBA represents the very lowest concentration, and corresponds generally with the lowest trigger levels for chronic exposure for entrained hydrocarbons in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000). An exposure at the low threshold could have some potential slight negative effect if the receptor is exposed for a significant duration.</p>		
Mangroves	<p><u>Moderate threshold</u></p> <p>Intertidal mangrove habitats occur throughout the coastlines of the JBG and are vulnerable to floating, entrained and dissolved hydrocarbon above moderate exposure thresholds. Hydrocarbons entering mangrove forests in tidal areas do so at or near high tide, smothering aerial roots and potentially also leaves. The severity of exposure for mangroves depends on the amount and type of oil entering the intertidal zone (Duke, 2016). While heavy oils (high specific gravity) are particularly proficient at coating and smothering small plants and aerial root systems, lighter oils with low specific gravity, such as MDO and condensates, are more toxic to mangroves (Hensel <i>et al.</i>, 2014; Connolly <i>et al.</i>, 2020). The potential for toxicity effects from hydrocarbons may be reduced by weathering processes that should serve to lower the content of soluble aromatic components before contact occurs. Hydrocarbons are expected to be highly weathered before reaching shallower areas where intertidal mangrove habitats may occur, limiting any impact.</p> <p><u>EMBA (low threshold)</u></p> <p>Exposure at the low hydrocarbon threshold is not anticipated to result in biological impacts to mangroves.</p>		
Socioeconomic			
Fisheries	<p>Exclusion zones surrounding surface hydrocarbons can directly impact fisheries by restricting access for fishermen; however, this is predicted to be very temporary due to the rapid evaporation and dispersion of MDO and condensates.</p> <p>Given the large spatial extent of managed fisheries in the area potentially contacted above moderate exposure thresholds, a spill is unlikely to result in complete closure of a fishery.</p>	<p>A number of State and Commonwealth commercial fisheries areas may be contacted by hydrocarbons (refer Section 4.6.1).</p> <p>Entrained hydrocarbon can have toxic effects on fish, reducing catch rates and rendering fish unsafe for consumption. Exposure to entrained and dissolved oil could result in the accumulation of oil in fish tissues to the extent that could result in hydrocarbon taint of fish flesh. Connell and Miller (1981) compiled a summary of studies listing the exposure value concentrations at which tainting occurred for hydrocarbons. The results contained in their review indicate tainting of fish occurs when fish are exposed to ambient concentrations of 4 to 300ppm (4000 to 300,000ppb) of hydrocarbons in the water, for durations of 24 hours or more. In general, fish are not expected to retain a taint for longer than a week after exposure to entrained or dissolved hydrocarbons (Gagnon & Holdway, 2000, cited in Westera & Babcock, 2016).</p> <p>The potential for toxicity effects of hydrocarbons may be reduced by weathering processes that should serve to lower the content of soluble polycyclic aromatic hydrocarbons components over time, reducing the likelihood of tainting. However, there remains a potential for economic impact to commercial fisheries. Impact is likely to remain for a period long after any actual risk has subsided due to concerns around seafood safety.</p>	N/A

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Receptor	Impacts of a hydrocarbon spill (Blacktip condensate and MDO)		
	Surface	Entrained and dissolved aromatic hydrocarbons	Shoreline
Traditional Indonesian fishing	Surface hydrocarbons are not predicted to contact the MoU box (refer to Section 4.6.2), where Traditional Indonesian fishing may occur.	<p>Traditional Indonesian fishing activity occurs within the MoU box (refer to Section 4.6.2), which is located approximately 500km to the west the Operational Area and lies within the EMBA (low exposure threshold). Traditional fishing is concentrated around banks, shoals, island and reefs; refer to Intertidal/subtidal habitats in the above rows for discussion of potential impacts to these receptors.</p> <p>As described above (Fisheries) entrained hydrocarbon can have toxic effects on fish, reducing catch rates and rendering fish unsafe for consumption. Exposure to entrained and dissolved oil could result in the accumulation of oil in fish tissues to the extent that could result in hydrocarbon taint of fish flesh.</p> <p>Hydrocarbon exposure may impact upon the biological resources exploited by traditional Indonesian fishers, such as fish and benthic invertebrates (e.g. sea cucumbers and trochus shells). Impacts to these biological resources may result in effects on traditional fishers, such as reduced catch rates. Given the distance between the release locations and the MoU box, impacts to traditional Indonesian fishing activities are considered to be unlikely and would be slight.</p>	N/A
Tourism and recreational fisheries	<p>In the waters immediately surrounding the Operational Area, tourism activities are expected to be low. However, nearer shore areas, there are many sources of marine-based tourism within the environment that may be affected. Expedition cruise boats operate in the dry months (April to October) between Broome and Wyndham and Darwin, exploring the Kimberley Coastline. Recreational fishing over the area is possible; occasional passing private motor vessels or yachts may also occur.</p> <p>A hydrocarbon spill may temporarily displace these users and impact their use for a period. It is considered highly unlikely that there will be long-term impacts to tourism and recreation activities.</p> <p>Exclusion zones surrounding a spill will reduce access for vessels for the duration of the response undertaken for spill clean-up (if applicable).</p>		Stranding of hydrocarbons on sandy beaches is anticipated to be very low (<10m ³ on JBG East and less than 1m ³ on the Kimberley Coastline). However, tourism activity on the JBG beaches is very low and, given the low volumes of accumulated hydrocarbons, impact is not anticipated to be significant or lasting. Contact at <10g/m ² is anticipated to result in a reduction in visual amenity of shorelines only.
Shipping	<p>There is limited shipping activity in the JBG. Exclusion zones surrounding surface hydrocarbons will reduce access for shipping vessels for the duration of the response undertaken for spill clean-up (if applicable); vessel may have to take large detours leading to potential delays and increased costs. Any impact is predicted to be very temporary due to the rapid evaporation and dispersion of MDO and condensates.</p> <p>Interference of shipping due to a hydrocarbon release is likely to be very minimal.</p>		N/A
Defence	The level of defence activities performed is in the airspace only; therefore, interference of defence activities due to a hydrocarbon spill are likely to be minimal.		N/A
Shipwrecks	The potential for in-water hydrocarbons to impact on shipwrecks is poorly documented. However, it has been proposed that exposure to oil may alter bacterial community composition (biofilms) inhabiting shipwrecks, possibly altering corrosion potential (Salerno <i>et al.</i> , 2019).		N/A

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Receptor	Impacts of a hydrocarbon spill (Blacktip condensate and MDO)		
	Surface	Entrained and dissolved aromatic hydrocarbons	Shoreline
First Nations Heritage	<p>Sea Country is valued for First Nations cultural identity, health, and wellbeing (Section 4.6.9). Across Australia, First Nations people have been sustainably using and managing their sea country for tens of thousands of years. First Nations Heritage consisting of Cultural Heritage Values and Sea Country are considered as socially important Receptors. These include coastal and marine Aboriginal heritage sites and places, some of which are registered Aboriginal sites and sacred sites. An unplanned large-scale spill has the potential to impact First Nations Heritage consisting of Cultural Heritage Values including coastal areas and Sea Country.</p> <p>Maintaining relationships and facilitating ongoing discussions with Traditional Owners and communities connected to the Sea allowing opportunities for ongoing improvements to spills preparedness, prevention and mitigation, building resilience and capacity in the community as well as the protection of socially important receptors (Joseph Bonaparte Gulf AMP discussed in Section 4.5.1 and Appendix B).</p> <p>Coastal areas and Sea Country in are most likely to be affected in the event of an unplanned large-scale spill such as loss of well containment. An unplanned large-scale spill will impact Sea Country for a period, while the spill disperses and weathers. Impacts to the range of species to which Traditional Owner groups may have cultural connections has been discussed throughout this table. Section 4.6.9 provides information on Traditional Owners knowledge and First Nations Heritage specific to this region and Section 6.1 discusses Enis approach to engaging these and other relevant persons in such conversation.</p> <p>It must be noted that that the likelihood of a hydrocarbon spill occurring is assessed as highly unlikely and the actual area that may be affected from any single spill event would be considerably smaller than represented by the EMBA or ZPI (Section 8.5).</p> <p>Combining Traditional Owner knowledge and spill modelling data that considers geographic and metocean data as well as hydrocarbon exposure types, thresholds, concentrations, transport, dispersal, fate, and weathering (Section 8.5) assists with understanding potential impacts on social receptors in the EMBA or ZPI.</p> <p>Accumulation of oil on shorelines has not been predicted to exceed concentrations in excess of the 100 g/m² (Table 8.9). Therefore, significant impact to Traditional Owner sensitivities or values aligning with the protection of coastal ecological receptors, fauna and habitat is not anticipated. In the unlikely event that shoreline areas within the EMBA are exposed hydrocarbons, short term changes to sediment quality and aesthetics along shorelines may occur presenting minimal and temporary impact on Traditional Owner values, sensitivities and sea country. Areas of shoreline contact are shown in figures with Section 8.6 and 8.7.</p> <p>There is potential for values and sensitivities associated with First Nation traditional use of resources to be affected by entrained and dissolved aromatic hydrocarbon exposure. First Nation traditional use of resources (seafood quality and employment) could be impacted due to entrained/dissolved hydrocarbon contact. The impact to fish communities from exposure to entrained and dissolved hydrocarbons above threshold values, is primarily associated with toxicity resulting in impacts to seafood quality.</p> <p>IPAs are shown in Figure 4.24. Two IPAs are in the vicinity of the EMBA in the JBG: the Marri-Jabin IPA (not contacted by EMBA) and the Balangarra IPA. The Bardi Jawi IPA is within the eastern extent of the EMBA. As defined by hydrocarbon modelling (Section 8.6 and 8.7), no shoreline contact occurs with the land component of the Bardi Jawi IPA and the contact with the sea component is entrained hydrocarbon at the low threshold. Significant impact to Traditional Owner sensitivities or values of IPAs are not anticipated given the contact at the low hydrocarbon thresholds and their distance to the spill sites (distances from Operational Area defined in Section 4.6.9.7. The Bardi Jawi IPA is approximately 625km from the Operational Area and any hydrocarbons reaching the sea component of the IPA will be an entrained component, highly weathered and significantly reduced in any toxicity. The 10ppb low entrained exposure threshold represents the very lowest concentration and corresponds generally with the lowest trigger levels for chronic exposure for entrained hydrocarbons in water quality guidelines, no ecological impacts are anticipated at this threshold. It is considered highly unlikely that there will be long-term impacts to Traditional Owner activities from contact at the low entrained threshold.</p> <p>Eni acknowledges Commonwealth and State Marine Park Management Plans recognise cultural features of Traditional Owner groups, impacts to protected areas/ marine parks are discussed in the rows below.</p>		N/A
Existing oil and gas activity	There is no oil and gas infrastructure in the vicinity of the surface hydrocarbons. Any impact is predicted to be very temporary due to the rapid evaporation and dispersion of MDO and condensates.		N/A

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Receptor	Impacts of a hydrocarbon spill (Blacktip condensate and MDO)		
	Surface	Entrained and dissolved aromatic hydrocarbons	Shoreline
Protected areas/ marine parks	<p>Marine parks (Australian and State) in the moderate threshold area and EMBA are presented in Section 4.5.1.</p> <p>Given the proximity to the Joseph Bonaparte Gulf AMP, there is the potential for contact from a spill. Other AMPs are more than 200km from the Operational Area; therefore, any contact will be with highly weathered hydrocarbons, reducing the potential impacts. Hydrocarbons contacting marine parks may impact the value of the marine parks for a period. These values include:</p> <ul style="list-style-type: none"> • natural • cultural • socioeconomic. <p>Appendix B details the values of the individual marine parks.</p> <p>Extensive contact with deeper features such as KEFs associated with the marine parks is not predicted, given the modelling predicts hydrocarbon concentrations are not predominantly within the upper water column. Marine parks support increased productivity or abundance of marine fauna that use the waters – including plankton, pelagic invertebrates and fish, marine mammals, marine reptiles and seabirds – which may be impacted by hydrocarbons, as previously described in this table.</p> <p>Table 8.15 discusses further the impact to each of the values, as identified in the Australian Marine Parks North Network Management Plan (DNP, 2018a).</p>		N/A
KEFs	<p>KEFs contacted by hydrocarbons are presented in Section 4.5.4.</p> <p>While some features associated with the KEFs are subtidal or submerged and would not be directly contacted by floating hydrocarbons, they all may support increased productivity or abundance of marine fauna that use the waters above the features (including plankton, pelagic invertebrates and fish, marine mammals, marine reptiles and seabirds), which may be impacted by entrained or dissolved hydrocarbons. Impacts to marine fauna are described above.</p>		N/A

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Given the relatively close distance of the Joseph Bonaparte Gulf AMP to the Operational Area (50km east, refer Figure 4.14), an assessment of the consistency of the Blacktip drilling activities and hydrocarbon release risk against the visions and objectives detailed within the Australian Marine Parks North Network Management Plan (DNP, 2018a) have been made in Table 8.14.

Table 8.14: Assessment of the Blacktip drilling activities and hydrocarbon release risk on the Vision from the Australian Marine Parks North Network Management Plan

Vision	Assessment of consistency
The vision of the Director of National Parks is that marine parks are healthy, resilient and well managed to enhance Australia's wellbeing. This means ensuring that:	
Natural, cultural, socioeconomic and heritage values are understood, appreciated and conserved	<p>Not inconsistent</p> <p>Section 4 presents the natural, cultural, socioeconomic and heritage values that may be affected by hydrocarbons, as informed by conservative hydrocarbon modelling. Table 8.13 provides an impact assessment of a hydrocarbon release from Blacktip drilling activities.</p> <p>Extensive contact with the natural features of the AMP is not anticipated. Hydrocarbon exposure at or above moderate exposure thresholds are expected to be limited to the upper water column; therefore, limited direct seabed contact is predicted.</p> <p>The AMP supports a range of species, including species listed as Threatened or Migratory under the EPBC Act. Impacts to the range of species the marine park supports has been discussed throughout Table 8.13.</p> <p>Appropriate controls have been evaluated and adopted to manage potential impacts and risks from a hydrocarbon release to the AMP to ALARP and acceptable levels</p> <p>An assessment against the natural, cultural, socioeconomic and heritage values of the JBG are made in Table 8.15. Impacts will occur for a short period, while the condensate disperses and weathers; however, lasting impact is not anticipated.</p>
Marine parks support jobs and businesses, providing multiple benefits to regional communities and the economy	<p>Not inconsistent</p> <p>Table 8.13 provides an impact assessment of a hydrocarbon release from the Blacktip drilling activities.</p> <p>Appropriate controls have been evaluated and adopted to manage potential impacts and risks from a hydrocarbon release to the Joseph Bonaparte Gulf AMP to ALARP and acceptable levels for the duration of the Blacktip drilling activities.</p> <p>Blacktip condensate (API 46.7) contains a low proportion (1% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures and persist in the environment. Given its properties, lasting impact is not anticipated on the ability of the Joseph Bonaparte Gulf AMP to support jobs, businesses, opportunities and tourism in the event of a hydrocarbon release contacting the AMP. Table 8.15 provides a further assessment on the socioeconomic values of the park.</p>
People have opportunities to enjoy marine parks	
Visitors and tourists can enjoy world-class nature-based experiences in marine parks	
Indigenous people and marine park users are partners in managing marine parks	<p>Not inconsistent</p> <p>Eni has and continue to consult with the First Nations peoples and AMP users who may use or have interest in the AMP (Section 5).</p>

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The values of the Joseph Bonaparte Gulf AMP which may be impacted for a period include:

- natural value
- cultural values
- socioeconomic values.

Table 8.15 discusses the impact to each of the values, as identified in the Australian Marine Parks North Network Management Plan (DNP, 2018a). It is not anticipated the values will be compromised or significantly impacted.

Table 8.15: Assessment against the values of the Joseph Bonaparte Gulf Australian Marine Park

Value	Assessment
Natural Values	<p>The key ecological feature in the AMP is the carbonate bank and terrace system of the Sahul Shelf, characterised by terraces, banks, channels and valleys that support sponges, soft corals, sessile filter feeders, polychaetes and ascidians. These features may be impacted from entrained hydrocarbons; however, the high evaporation and light components of the condensate and MDO will reduce the entrainment volume within the water column.</p> <p>The JBG experiences a mixed semidiurnal tide with a very large range in tidal elevations and correspondingly strong tidal currents (Przeslawski <i>et al.</i>, 2011). High-energy tidal currents along much of the coastline stimulate mixing and sediment movement throughout the year, contributing to the highly turbid environment which will further evaporate and disperse the condensate and MDO.</p> <p>The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging habitat for marine turtles and the Australian snubfin dolphin. Impacts to the range of species which the AMP supports has been discussed in Table 8.13.</p> <p>Environmental values of the AMP may be impacted for a period while the hydrocarbons disperse and weather; however, lasting impact is not anticipated.</p>
Cultural Values	<p>The Miriuwung, Gajerrong, Doolboong, Wardenybeng and Gija and Balangarra people have responsibilities for Sea Country in the AMP (DNP, 2018a). Sea Country is valued for First Nations' cultural identity, health and wellbeing. Across Australia, First Nations people have been sustainably using and managing their Sea Country for tens of thousands of years.</p> <p>A large-scale spill will impact the Sea Country within the AMP for a period, while the spill disperses and weathers. Impacts to the range of species to which Traditional Owner groups may have cultural connections has been discussed within Table 8.13.</p> <p>A condensate spill will impact the AMP for a short period, while the condensate disperses and weathers; however, lasting impact is not anticipated.</p>
Socioeconomic Values	<p>Tourism, commercial fishing, and recreation including fishing, are important activities in the AMP. As described above, a condensate spill will impact the AMP for a short period, while the hydrocarbon disperses and weathers; however, lasting impact is not anticipated.</p> <p>Impacts have been discussed further in Table 8.13.</p>

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8.6.4 Environmental Performance Outcomes and Control Measures

EPOs relating to this risk include:

- no loss of containment of hydrocarbons to the marine environment (EPO-14).


CMs relating to this risk include:

- NOPSEMA-accepted MODU Safety Case (CM-26)
- NOPSEMA-accepted WOMP (CM-27)
- NOPSEMA-accepted OPEP (CM-28)
- BOP specification and function testing (CM-29)
- Relevant well site personnel hold International Well Control Forum certificates (CM-30)
- Mutual Aid MoU for relief well drilling (CM-31)
- Eni Source Control Response Plan (ENI-WOP-PL-001) (CM-32).


EPSs and MC relating to the above are presented in Section 9.

8.6.5 As Low as Reasonably Practicable Demonstration


Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Eliminate	Eliminate drilling activity	Drilling activities are required to continue supply of gas and condensate to the YGP and the activities cannot be eliminated.	x
	Timing drilling where possible to avoid fish spawning season during warmer months (September-March)	During 2023 consultation, the DITT / NT Fisheries requested that where possible, drilling is undertaken during warmer months (September-March) to avoid fish spawning season. The timing of the Blacktip drilling activities is subject to vessel and MODU availability in the region as well as weather conditions; and given the nature of the work, it is not feasible to commit to limiting work to specific periods of the year. The potential impact to commercial fish species and fisheries from the drilling activity is assessed in relevant sections in Section 7 and 8; and is considered acceptable and reduced to ALARP.	x

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Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
Substitute	Manage the timing of the activity to avoid sensitive periods	<p>Reduce risk of impacts from well blowout during environmentally sensitive periods for listed marine fauna (e.g. turtle nesting periods typically February to November, but may occur year round in the NT for flatback).</p> <p>Reduces the risk of impacts from well blowout during tropical fish spawning periods (September until the end of March).</p> <p>The timing of the Blacktip drilling activities is subject to vessel and MODU availability in the region as well as weather conditions. Specific drilling periods are limiting to the activity. High cost in moving or delaying activity schedule outweighs the environmental benefit.</p>	×
Engineering	N/A	N/A.	N/A
Isolation	N/A	N/A.	N/A
Administrative	Accepted MODU Safety Case	<p>The MODU Safety Case includes design control measures for well control that reduce the risk of an unplanned release of hydrocarbons.</p> <p>Is a legislative requirement to have an approved Safety Case in place under the OPGGS Act.</p>	✓ (CM-26)
	Accepted WOMP	<p>WOMP will ensure well barriers are in place and verified, reducing the likelihood of a loss of containment event occurring.</p> <p>At least two isolation barriers are in place between the reservoir and the environment, reducing the likelihood of a release occurring. A release may occur in the unlikely event of simultaneous failure of all barriers and cannot be isolated further.</p> <p>It is a legislative requirement to have an approved WOMP in place under the OPGGS Act.</p>	✓ (CM-27)
	Accepted OPEP	<p>Implements response plans to manage an unplanned hydrocarbon release quickly and efficiently to reduce impacts to the marine environment.</p> <p>An accepted OPEP is a legislative requirement under the OPGGS Act.</p>	✓ (CM-28)
	BOP specification and function testing	<p>Testing of the BOP will reduce the likelihood of a blowout, resulting in release of hydrocarbons to the marine environment.</p> <p>Environmental benefit outweighs the minor cost involved in testing the BOP.</p>	✓ (CM-29)

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Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
	Relevant well site personnel hold International Well Control Forum certificates	Ensures well site personnel are competent in well control practices.	✓ (CM-30)
	Mutual Aid MoU for relief well drilling	Mutual aid MoU for relief well drilling is in place which allows for expedited use of drilling rig for relief well drilling. Environmental benefit outweighs the administrative costs of preparing and maintaining MOU.	✓ (CM-31)
	Eni Source Control Response Plan (ENI-WOP-PL-001)	The Eni Source Control Response Plan details steps to expedite the drilling of a relief well, including: <ul style="list-style-type: none"> • relief well design • simulation of the dynamic kill • high-level requirement for the rig and the equipment, volumes and the pumping pressures. Following the Source Control Response Plan in the event of a loss of well control will reduce the time taken to control the well, limiting the volume released to the environment. Environmental benefit outweighs the administrative costs of preparing documents and large costs of preparing for and implementing response strategies.	✓ (CM-32)
	A dedicated second MODU on standby for the purpose of relief well drilling	Could reduce the length of time taken to drill a relief well and may reduce the timeframe for stopping a blowout by up to two weeks; although planning, approval and setup requirements mean the reduction would likely be less. The cost of having a MODU and personnel and equipment on standby would be excessive (US\$350,000 to US\$600,000 per day for a minimum negotiated contract term), making operations unviable. Introducing a MODU and support equipment and personnel on standby would result in additional environmental and safety risks. Cost outweighs environmental benefit. It is envisaged a MODU would be made available through the APPEA-administered MoU (MODU and Well Services).	✗

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Demonstration of ALARP			
Type	Control/management	Evaluation	Adoption?
	Drill top holes of a relief well	<p>Would enable a relief well to be drilled slightly faster (one week), as the top holes have been drilled.</p> <p>Significant additional cost associated with the MODU drilling, which is estimated at approximately \$550,000 per day.</p> <p>Additional environmental and safety risks associated with drilling.</p>	x


8.6.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	<p>Management of the risk of accidental hydrocarbon releases is consistent with a number of Australian and international requirements, including the OPGGS Act, which require:</p> <ul style="list-style-type: none"> • accepted WOMP • accepted Safety Case • accepted OPEP. <p>EPBC approval conditions (EPBC 2003/1180) were considered for this risk. Condition number 3 relates to potential spills. The Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000) is considered to meet this condition.</p>
Policy Compliance	<p>The management of loss of condensate is aligned with Eni policies and standards. The residual risk is Medium, which is acceptable given a review of the risk reduction measures for the activity that has been undertaken.</p> <p>The EPOs, CMs and EPSs that will be implemented are consistent with Eni internal requirements.</p>
Social Acceptability	<p>Stakeholders have been consulted. To date, no relevant person concerns have been raised regarding loss of condensate (refer Section 5).</p> <p>The DITT / NT Fisheries raised concerns about the timing of the activity; requesting where possible drilling avoid the warmer months during fish spawning season (September-March). The timing of the Blacktip drilling activities is subject to vessel and MODU availability in the region as well as weather conditions; and given the nature of the work, it is not feasible to commit to limiting work to specific periods of the year. This additional control was assessed as part of the ALARP evaluation, and not adopted.</p> <p>A number of relevant persons raised concerns that their functions, activities or interests may be impacted by a worst-case hydrocarbon spill. These included DBCA, TLC, Bardi Jawi Niimidiman Aboriginal Corporation RNTBC, MG Corporation, Gogolanyngor Aboriginal Corporation, Nyangu martka Karajarri Aboriginal Corporation and Nyul Nyul PBC Aboriginal Corporation. The potential impacts to their key values and sensitivities or functions, activities and interests was assessed in Section 8.6.3.</p> <p>An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>

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Demonstration of acceptability	
Area Sensitivity/ Biodiversity	<p>See Table 8.13.</p> <p>Habitat modification, degradation, disruption and loss, deteriorating water quality and marine pollution are identified as potential threats to a number of marine fauna species in relevant recovery plans and conservation advice (as listed in Table 2.3). Eni has considered information contained in relevant recovery plans for marine fauna that identify marine pollution as a threat. Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice.</p> <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9).</p>
ESD Principles	<p>The impacts from the loss of condensate are inherently inconsistent with some of the principles of ESD, as the impact to environmental resources in the event of spills may be significant and may also prevent others from exercising their right to access environmental resources.</p> <p>However, as this is an unplanned event, the risk associated with the event occurring is consistent because:</p> <ul style="list-style-type: none"> • while the nature and scale of impacts have the potential to result in significant impacts, the controls that will be implemented reduce the risk to an acceptable level • conservative assumptions have been applied to the impact assessment including: <ul style="list-style-type: none"> – identifying and modelling worst-case credible spill scenario, which is highly conservative in volume and statistics indicate the vast majority of unplanned spills are significantly smaller – using a stochastic modelling approach for numerical modelling of the worst-case credible spill scenarios that includes a large number of model runs over three seasons and present unmitigated spill trajectories – applying environmentally conservative hydrocarbon exposure values for impact assessment purposes. <p>Even in the unlikely event of a spill, the health, diversity and productivity of the environment will be maintained, including for future generations.</p>
ALARP	The residual risk has been demonstrated to be ALARP.

Controls have been evaluated above and adopted in accordance with the ALARP criteria (Section 8.7.5). Given the controls that will be implemented, the residual risk is considered moderate, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5) once assessed to ALARP (Section 8.6.5). Potential impacts are acceptable and ALARP.

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8.7 Loss of Marine Diesel Oil (Risk ID U6)

8.7.1 Summary of Environmental Risk Assessment

Hazard	MDO Spills – Vessel Collision		
	Frequency	Severity	Risk
Inherent Risk	B	3	M
Residual Risk	A	3	L

Hazard	MDO Spills – Bunkering Incident		
	Frequency	Severity	Risk
Inherent Risk	C	2	M
Residual Risk	B	2	L

8.7.2 Description of Hazard


Credible scenarios that could result in a loss of MDO during Blacktip drilling activities are:

1. surface release of MDO from a vessel as a result of an external impact (vessel collision) which ruptures an MDO tank
2. surface release of MDO from a refuelling/bunkering incident.

Ruptured Vessel Tank

A collision scenario between a vessel and another vessel (third-party or other Eni vessel) or with the WHP could occur due to factors such as human error, poor navigation, vessel equipment failure or poor weather. A number of prerequisite conditions must exist for a vessel collision to result in the loss of fuel to the environment:

1. The vessel must be involved in a collision: collisions involving offshore support vessels, comparable to those that will be used during the activity, are very uncommon. Statistics compiled by the Australian Transport Safety Bureau indicate offshore support vessels were involved in only one collision-related incident between 2011 and 2012, and no pollution-related incidents from offshore support vessels were recorded in the same time period.
2. The collision must occur with sufficient force to rupture a fuel tank: fuel tanks are typically located at various positions around a vessel within the hull.
3. The rupture must be of such a nature that the fuel can be released into the environment: a tank rupture must be above or near the fuel level within the tank to result in a loss of containment from the tank. Once lost from the tank, fuel may leak to the environment or drain into the vessel hull. Fuel from ruptured tanks may be transferred to other tanks onboard, reducing the volume in the ruptured tank.

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The largest tank for a Blacktip drilling activities vessel (see Section 3.6.1) is 100m³. All Blacktip vessels will be fuelled using MDO or lighter fuels (such as marine gas oil). Heavier fuel types, such as intermediate fuel oil or heavy fuel oil, will not be used. It is not credible that the total storage volume of the vessel would be lost, as MDO is stored in more than one tank and AMSA (2015) defines the maximum credible spill volume of a vessel collision to be the volume of the largest fuel tank.

It is considered that a worst-case scenario would be the instantaneous loss of 100m³ MDO to the sea surface through the rupture.

Refuelling/Bunkering Incident

Refuelling/bunkering of fuel at sea is required for refuelling purposes (e.g., refuelling the MODU). Spills of MDO to the sea surface during refuelling/bunkering from vessel to vessel can be caused by:

- damaged refuelling hose
- coupling failures
- loss of connection
- operator error.

The guidance provided by AMSA (2013) for a refuelling spill under continuous supervision is considered appropriate, given refuelling will be constantly supervised. In the event the refuelling pipe is ruptured, the fuel bunkering activity will cease by turning off the pump; the fuel remaining in the transfer line will escape to the environment as well as fuel that was released prior to the transfer operation being stopped. The maximum credible spill volume during refuelling is calculated as transfer rate multiplied by 15 minutes of flow, which is determined as an appropriate duration, given refuelling will be constantly supervised. Based on a typical expected pumping rate of 150m³/hour, a total spill volume of approximately 37.5m³ is considered the worst-case credible volume.


Scenarios That Were Considered but Determined 'Not Credible'

A tank rupture resulting from vessel grounding was considered but determined not credible since the water depths are approximately 50m and there are no emergent features within the Operational Area.

A MODU fuel tank loss from a collision with a third party or support vessel was considered but determined not credible as the MODU tanks are located above sea level. The draught of vessel and location of MODU tanks in terms of water line prevent the tanks from being breached.

8.7.2.1 Marine Diesel Oil

MDO with a sulphur content of less than 3.50% m/m is the only fuel that will be used by a vessel during the Blacktip drilling activities. Following is a description of MDO key components and predicted behaviour when released into the marine environment.

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In the marine environment:

- MDO will generally spread rapidly in the direction of prevailing wind and current.
- MDO will generally evaporate rapidly from the sea surface. Under calm conditions, this will be the dominant process of removing oil from the marine environment.
- The evaporation rate of MDO will increase in warmer air and sea temperatures, such as those experienced at the activity location.
- As wind speed increases and breaking waves form, entrainment of MDO under the sea surface will increase.
- MDO residues (5% of total volume) are made up of larger carbon chain compounds that are likely to persist longer in the environment.

Australian Marine Oil Spill Centre (AMOSC, 2011) categorises MDO as a light Group II hydrocarbon (Table 8.16). MDO is a mixture of volatile and persistent hydrocarbons, with a low percentage of volatile C4 to C10 hydrocarbons (6%) and a greater proportion of moderate to very low volatile C11 to C20 hydrocarbons (89%). In the marine environment, a small residual volume (5%) of the total quantity of MDO spilled may remain after the volatilisation and solubilisation processes associated with weathering. The heavier (low volatile) components of the oil have a tendency to entrain into the upper water column due to wind-generated waves but can subsequently resurface if wind waves abate.

Table 8.16: Characteristics of marine diesel oil

Hydrocarbon	MDO	
Initial density	0.83678 g/cm ³ (150°C)	
Viscosity	4.0 cP (20°C)	
Hydrocarbon component	Hydrocarbon boiling point ranges (carbon chain range in parenthesis)	% of Total
Volatiles	Non-persistent	<180°C (C4 to C10)
Semi-volatiles		180 to 265°C (C11 to C15)
Low volatility		265 to 380°C (C16 to C20)
Residual	Persistent	>380°C (>C20)
Aromatics	<380 °C (whole oil)	
		3.0%

8.7.2.2 Oil Spill Modelling

Estimates of the fate of 100m³ of MDO released to the marine environment were assessed using the modelling program ADIOS II. Since the activity could occur at any time of year, the model was run using environmental parameters (water temperature, wind speed, current speed, and salinity) for different seasons (Table 8.17). The modelling showed conditions in winter led to the worst-case scenario (in terms of MDO persistence and potential distance travelled) and therefore was used as the basis for the following impact assessment.


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Table 8.17: Parameters used in ADIOS oil spill modelling

Parameter	Summer	Winter	Autumn	Spring
Surface water temperature (°C)	35	35	35	35
Wind speed (m/s)	14	14	12	12
Current speed (m/s)	1	1	1	1
Salinity (ppt)	35	35	35	35

Modelling suggests the surface life for an instantaneous MDO spill of 100m³ from a vessel collision incident is estimated at eight hours (Table 8.16). Using guidance supplied by International Tanker Owner Pollution Federation (2011) in this time, surface MDO may travel up to 35km, based on an estimate in which the surface spill will travel at 100% of the speed and direction of ambient currents, and 3% of the speed and direction of local winds. This provides the maximum possible speed of a surface slick. Should wind and current direction differ, the slick would be slower moving; therefore, this is a conservative estimate.

The ADIOS II model cannot predict entrained oil or aromatic concentrations from the spill. However, the MDO will rapidly evaporate and weather on the sea surface, limiting entrained and dissolved aromatic volumes in the water column. Given the parameters used in the ADIOS modelling are worst-case and based on maximum wind speeds and maximum currents in one direction, a 35km radius is therefore considered a very conservative EMBA for an MDO release. The high rate of evaporation means little MDO will become entrained, and few aromatic hydrocarbons are predicted to become dissolved, reducing impact to marine fauna. It is highly likely any entrained or dissolved aromatics at impact thresholds will be within this EMBA.

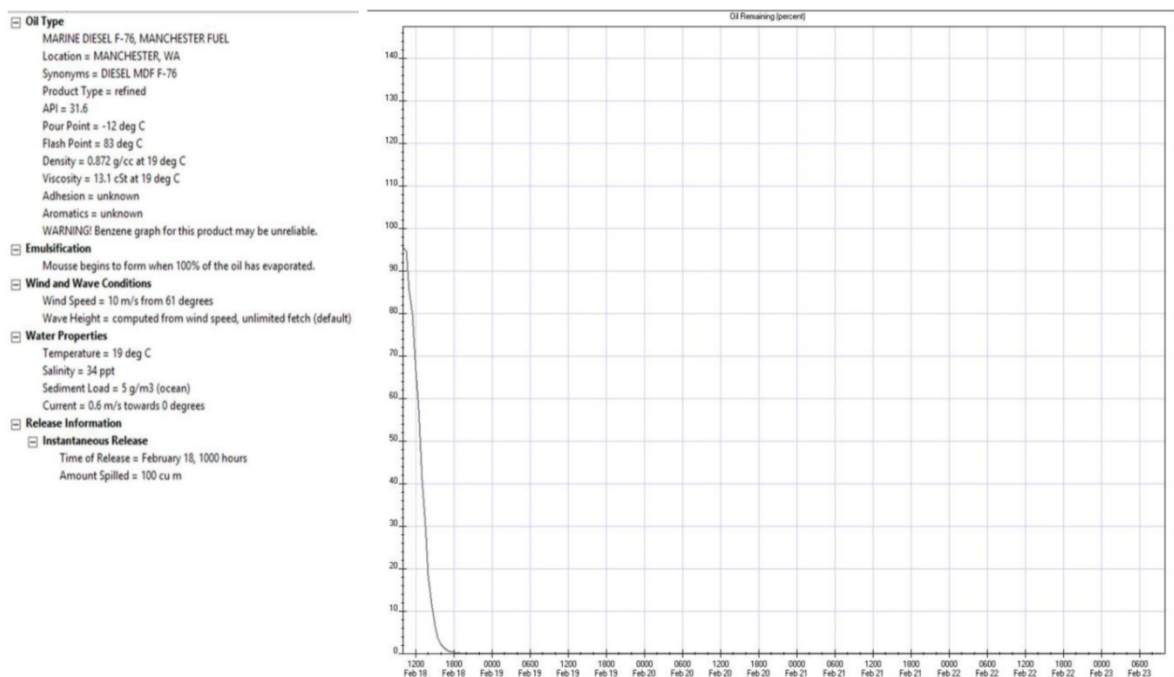



Figure 8.9: ADIOS II modelling output for a 100m³ marine diesel oil spill release instantaneously due to a vessel collision

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A 35km radius around the Operational Area presents the EMBA from a MODU spill. This is considered within the EMBA for the condensate release (Section 8.6). Any smaller spills, such as MDO during refuelling, would be encapsulated within the larger condensate EMBA.

MDO modelling using the more detailed 3D trajectory and fates model – Spill Impact Model Application Package – has also been included in the Blacktip Operations EP (000036_DV_PR.HSE.0677.000). The Blacktip Operations EP (000036_DV_PR.HSE.0677.000) presents a 100m³ release at the Blacktip SPM, which is outside of the Operational Area of this EP; however, significantly closer to the shore (7km from the JBG East coastline). Eni has the ability to respond to this worst-case release, as detailed in the Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000).

8.7.3 Potential Environmental Impact

For potential environmental impacts from a hydrocarbon spill, refer to Table 8.13. A release of MDO will be much reduced in terms of spatial and temporal scales compared to a worst-case loss of Blacktip condensate from the loss of well control, assessed and modelled in Section 8.6. Any impact from a release from the vessel is anticipated to be within 35km of the release, as determined by the modelling (Section 8.7.2.2).


A surface release of MDO may temporarily impact water quality for a short period while the release disperses and evaporates. Surface MDO once spilled is predicted to evaporate within eight hours. This will limit time for entrainment of hydrocarbons within the water column. MDO also has low volatility and low aromatics, limiting the toxicity effects of entrained hydrocarbons. Given the low aromatics, the high evaporation potential, and the weathering to which the MDO will be subject, impacts to the marine environment are considered local and recovery will be rapid once the MDO disperses.

For marine fauna that may be exposed to the aromatic components of MDO as it weathers, impacts are considered unlikely since these species are mobile and therefore will not be constantly exposed for extended durations that would be required to cause any major toxic effects.

While the marine fauna may transit through the release, contact is unlikely to result in impacts greater than a minor short-term behavioural change, limited to one or a few individual species. Impact to overall population viability or ecosystems is not anticipated.

Individual turtles may be encountered and come into contact with the released hydrocarbons; however, considering the water depths at the Operational Area (approximately 50 m), large numbers of the species are not expected, and any impact will be limited to one or a few individuals. Impact to overall population viability or ecosystems is not anticipated.

Given the temporary and highly localised nature of a release of this size, as well as the transient nature of marine fauna, impacts from exposure to a reduction in water quality are not expected, but at worst, would be limited to a small number of individuals. Given the rapid dilution and dispersion of the MDO, any impact is anticipated to be minor and will not result in impacts at a population level.

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MDO spills are not anticipated to reach the Joseph Bonaparte Gulf AMP, which is 50km from the Operational Area. In the unlikely event MDO reaches Joseph Bonaparte Gulf AMP, given the low maximum concentrations, the weathering of MDO and the low aromatics and persistent fraction (see Table 8.16), impacts will not be significant and it is not anticipated that the values of the AMP will be impacted. An assessment of the impact to values of the Joseph Bonaparte Gulf AMP has been assessed for the significantly larger loss of well control hydrocarbon release; refer Section 8.6.

8.7.4 Environmental Performance Outcomes and Control Measures


EPOs relating to this risk include:

- no loss of containment of hydrocarbons to the marine environment (EPO-14).

CMs relating to this risk include:


- navigation equipment and procedures (lighting as required for safe work conditions and navigational purposes) (CM-01)
- consultation with relevant persons (CM-02)
- a 500m Petroleum Safety Zone (CM-03)
- vessel fuel quality (CM-05)
- NOPSEMA-accepted OPEP (CM-28)
- vessel spill response plans (CM-24)
- refuelling transfer procedures (CM-33).

EPSs and MC relating to the above are presented in Section 9.


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8.7.5 As Low as Reasonably Practicable Demonstration


Demonstration of ALARP			
Type	Control management	Evaluation	Adoption?
Eliminate	Eliminate the use of vessels in the Operational Area	Vessel use is required to support the jack-up MODU operations and cannot be eliminated.	*
	Timing drilling where possible to avoid fish spawning season during warmer months (September-March)	During 2023 consultation, the DITT / NT Fisheries requested that where possible, drilling is undertaken during warmer months (September-March) to avoid fish spawning season. The timing of the Blacktip drilling activities is subject to vessel and MODU availability in the region as well as weather conditions; and given the nature of the work, it is not feasible to commit to limiting work to specific periods of the year. The potential impact to commercial fish species and fisheries from the drilling activity is assessed in relevant sections in Section 7 and 8; and is considered acceptable and reduced to ALARP.	*
	Eliminate bunkering activities during drilling	Would remove the spill risk from bunkering. However, the duration of the Blacktip drilling activities requires that bunkering of fuel occur so the activity can be completed.	*
Substitute	Zero fuel bunkering via hose	Removes spill risk from hose operations. Drums could be used; however, presents cost associated with multiple vessel transits and additional HSE risks during transfer of drums.	*
	Vessel fuel quality (in compliance with Marine Order 97)	MDO is lighter than other types of fuels (e.g., heavy fuel oil) and will evaporate faster and persist less in the marine environment. MDO is already used on the vessels in accordance with Marine Orders. Minimal cost as vessels required to comply with Marine Orders.	✓ (CM-05)

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Demonstration of ALARP			
Type	Control management	Evaluation	Adoption?
Engineering	Navigation equipment and procedures (lighting as required for safe work conditions and navigational purposes)	<p>Ensures the jack-up MODU and vessels are seen by other marine users.</p> <p>Reduces risk of environmental impact from vessel collisions due to ensuring safety requirements are fulfilled.</p> <p>Negligible costs of operating navigational equipment.</p> <p>A requirement under Marine Orders, requires vessels to have navigational equipment to avoid collisions.</p> <p><i>Note, a radar beacon unit is installed on the WHP which would appear on the display of the triggering radars, providing range, bearing and identification information. Would alert vessels of WHP position, reducing collision risk.</i></p>	✓ (CM-01)
	Contract double-hulled vessels only	<p>Double-hulled vessels only would provide additional protection to the fuel tanks.</p> <p>Vessels are subject to availability and are required to meet Eni standards. Double-hull requirement would be of high cost and subject to vessel availability, which could cause project delay.</p>	*
Isolation	N/A	N/A.	N/A
Administrative	Consultation with relevant persons (refer Section 5)	<p>Relevant persons consultation ensures marine users are aware of the drilling activities, reducing the likelihood of collisions or unplanned interactions. Provides marine users an opportunity to request practicable interface control measures.</p> <p>Enables identification of potential Sea Country protection and enhancement initiatives, and implementation where practicable.</p>	✓ (CM-02)
		<p>In order to ensure Eni activities do not conflict with Defence training in the future, Eni will notify Defence a minimum of five weeks before the actual commencement of activities. Notification will need to be provided to offshore.petroleum@defence.gov.au.</p> <p>Defence will also be made aware of any high-velocity exhaust gas plumes or burn-offs that could impact the safety of flights.</p> <p>Minor administrative costs in notifying Defence.</p> <p>Ensures Defence is aware of the activities, reducing the likelihood of interactions.</p>	


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Demonstration of ALARP			
Type	Control management	Evaluation	Adoption?
	Accepted OPEP	Implements response plans to manage an unplanned hydrocarbon release quickly and efficiently to reduce impacts to the marine environment. An accepted OPEP is a legislative requirement under the OPGGS Act.	✓ (CM-28)
	Vessel spill response plan (SOPEP)	Environmental benefit outweighs minor costs in implementing and testing the vessel spill response plan (SOPEP), which contains plans to prevent spills reaching the marine environment. The SOPEP is a requirement under MARPOL Annex 1 (all vessels larger than 400 gross tonnage have a SOPEP or SMPEP outlining options to control the source of a hydrocarbon spill).	✓ (CM-24)
	Establishment and enforcement of a 500m PSZ around the jack-up MODU	No additional costs. Other marine users may be temporarily excluded from areas, reducing the risk of collisions. A 500m PSZ is already present around the WHP (drilling is from the WHP).	✓ (CM-03)
	Refuelling transfer procedures	Administrative control, such as bunkering/bulk refuelling procedures (applied by the contractors) can reduce the potential for bunkering spills with minimal cost involved.	✓ (CM-33)

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8.7.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	<p>Physical presence of Blacktip drilling activities is managed to avoid collisions and associated spill risk in accordance with relevant legislative requirements, including compliance with international maritime conventions and Australian legislation, being:</p> <ul style="list-style-type: none"> • International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978 • International Convention for the Safety of Life at Sea 1974 • International Regulations for Preventing Collisions at Sea 1972 • <i>Navigation Act 2012</i>, including, as appropriate to vessel class: <ul style="list-style-type: none"> – Marine Order 21: Safety and emergency arrangements) – Marine Order 30: Prevention of collisions) – Marine Order 71: Masters and deck officers • OPGGS Act Section 616 (2) Petroleum safety zones, which involve establishing and maintaining a PSZ around offshore structures or equipment. <p>EPBC approval conditions (EPBC 2003/1180) were considered for this risk. Condition number 3 relates to potential spills. The Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000) is considered to meet this condition.</p>
Policy Compliance	<p>The management of loss of MDO is aligned with Eni policies and standards. The EPOs, CMs and EPSs that will be implemented are consistent with Eni internal requirements.</p>
Social Acceptability	<p>Stakeholders have been consulted. To date, no relevant person concerns have been raised regarding loss of MDO.</p> <p>An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>
Area Sensitivity/ Biodiversity	<p>Habitat modification, degradation, disruption and loss, deteriorating water quality and marine pollution are identified as potential threats to a number of marine fauna species in relevant recovery plans and conservation advice (as listed in Table 2.3). Eni has considered information contained in relevant recovery plans for marine fauna that identify marine pollution as a threat. Blacktip drilling activities are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice.</p> <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9). MDO spills are not anticipated to reach the AMP.</p>
ESD Principles	<p>The risk of this unplanned event is consistent with the principles of ESD because:</p> <ul style="list-style-type: none"> • controls that will be implemented reduce the risk • the impacts associated with unplanned condensate spill do not result in 'threats of serious or irreversible harm' as detailed within the EPBC Act and biodiversity and ecological integrity will be maintained • conservative assumptions on scale of impact have been applied • the health, diversity and productivity of the environment will be maintained, including for future generations.
ALARP	The residual risk has been demonstrated to be ALARP.

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Controls have been evaluated above and adopted in accordance with the ALARP criteria (Section 8.7.5). The residual risk ranking is low. This is acceptable in accordance with Eni's acceptability criteria (Table 6.5). No additional controls were identified to further reduce risk. Given the low potential risk and the controls that will be implemented, Eni considers the risks are acceptable and managed to ALARP.

8.8 Oil Spill Response Operations (Risk ID U7)

8.8.1 Summary of Environmental Risk Assessment

Hazard	Oil Spill Response Operations		
	Frequency	Severity	Risk
Inherent Risk	C	3	MH
Residual Risk	B	2	L

8.8.2 Description of Hazard

In the event of a hydrocarbon spill, response strategies will be implemented where possible to reduce environmental impacts to ALARP. The selection of strategies will be undertaken through the net environmental benefit analysis (NEBA) process, outlined in the OPEP. Spill response will be under the direction of the relevant Control Agency, as defined within the Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15). The response strategies and supporting activities deemed appropriate for the oil spill scenarios for the Blacktip drilling activities are detailed in the Blacktip OPEP (000036_DV_PR.HSE.0388.000_Rev15) and identified as:

- operational monitoring
- source control
- shoreline protection and deflection
- shoreline clean-up
- oiled wildlife response
- scientific monitoring.

Response strategies are intended to reduce the environmental consequences of a hydrocarbon spill. However, the nature of some of the strategies (such as those requiring vessel use) means environmental risk from their implementation is inevitable. In addition, lack of planned and coordinated response activities or guidance can result in inadequate response implementation, causing further environmental impact.

All potential risks that may arise through implementation of response strategies are summarised in Table 8.18.


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Table 8.18: Summary of risks associated with implementation of response strategy

	Operational monitoring	Source control	Protection and deflection	Shoreline clean-up	Oiled wildlife	Scientific monitoring
Vessel movements	x	x	x	x	-	x
Light emissions	x	x	x	x	x	x
Noise	x	x	x	-	x	x
Atmospheric emissions	x	x	x	x	-	x
Disturbance to natural habitat	-	-	x	x	x	
Operational discharge of waste	-	x	x	x	-	-

Offshore risks are consistent with vessel operations described within this EP for the planned operations. The greatest potential for impacts additional to those described for planned operations are from oiled wildlife response, nearshore protection and deflection and shoreline clean-up operations where disturbance to the environment may occur through implementation efforts. Specific risks relating to response operations are described further in the next subsections.

8.8.2.1 Light Emissions


Spill response activities will involve the use of vessels which are required, at a minimum, to display navigational lighting. Vessels may operate close to shoreline areas during spill response activities.

Onshore operations are not expected; however, if required, they will be confined to isolated areas and beaches and a shoreline response will only occur during daylight hours. Spill response activities may involve onshore operations, including the use of vehicles and temporary camps which may require lighting. A significant onshore response is not envisaged.

8.8.2.2 Noise Emissions

Spill response activities will involve the use of vessels which will generate noise, both offshore and in proximity to sensitive receptors in coastal areas.

Spill response activities will also involve the use of equipment on coastal areas during clean-up of shorelines (such as pumps and vehicles), for accessing shoreline areas (such as vehicles) and for supporting temporary camps (such as diesel generators).

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8.8.2.3 Atmospheric Emissions

The use of fuels to power vessel engines, generators and mobile equipment used during spill response activities will result in emissions of GHGs.

Atmospheric emissions from spill response equipment will be localised and, while there is potential for fauna and flora impacts, the use of mobile equipment, vessels and vehicles is not considered to create emissions on a scale where noticeable impacts would be predicted. Emissions may occur in protected areas; however, the scale of the impact relative to potential oil spill impacts is not considered great.

8.8.2.4 Physical Presence and Disturbance

The movement and operation of response vessels, including anchoring and operating in the nearshore environment, has potential to cause disturbance to the marine environment. Onshore, vehicles, personnel and equipment associated with the response strategy have the potential to disturb the physical marine and coastal habitats and fauna. Vehicles, equipment and personnel associated with the strategy could also introduce or spread non-indigenous flora and fauna.

Oiled wildlife response activities may involve deliberate disturbance (hazing), capture, handling, cleaning, rehabilitation and release of wildlife, which could lead to additional impacts to wildlife.

8.8.2.5 Operational Discharges and Waste


Operational discharges offshore include those routine discharges from vessels used during spill response and will be the same as those described in Section 7.6. Other specific waste streams include cleaning materials used for cleaning oily equipment, flushing water used for cleaning the shoreline habitats, any waste from shoreline clean-up personnel or camps.

8.8.3 Potential Environmental Impact

Offshore impacts are consistent with vessel operations described within this EP for the planned drilling operations. Specific impacts relating to response operations risks, identified above, are described further in the next subsections.

8.8.3.1 Light Emissions

Offshore lighting may cause behavioural changes to fish (including sharks), birds and marine turtles and have been described in planned risks (Section 7.5).

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Spill response activities which require lighting may also occur nearshore and on shorelines through response strategy implementation. The receptors considered most sensitive to lighting from vessel and shoreline operations (in the event of shoreline clean-up operations) are seabirds and marine turtles. There is flatback turtle nesting activity in the area of Northern Yelcherr Beach and Injin Beach to the north, and along the coastline from Cape Hay to Pearce Point. A significant flatback turtle nesting area occurs on the north side of Cape Domett, WA (75km to the south of the Operational Area) and nesting sites are also located on Lacrosse Island and Pelican Island in the same region. During the nesting period (typically February to November, but may occur year round in the NT for flatback turtle) and hatching periods (December to March), turtle sensitivity to light will be greater.

However, given the scale of the response, any impacts are expected to be short-term, geographically confined and minor. In addition, shoreline operations will only be conducted in daytime hours and light impacts would be considered when locating any shoreline camps. Light impacts will also be considered in the operational NEBA process.

8.8.3.2 Noise Emissions

Offshore noise may cause behavioural changes to marine mammals, turtles and fish and have been described in planned risks (Section 7.3).

Spill response activity from onshore operations (noise-generating mobile equipment and vehicles) has the potential to disturb nesting, roosting or feeding birds, as well as nesting turtles and other onshore fauna, through noise and vibration. The shoreline response equipment used is not considered to have excessive sound levels and its use will also be considered in the operational NEBA process. The potential impact to onshore fauna from noise is expected to be low. Given the scale of the response, any impacts are expected to be short-term, geographically confined and minor.


8.8.3.3 Atmospheric Emissions

Offshore atmospherics may result in a temporary, localised reduction of air quality and have been described in planned risks (Section 7.2).

Atmospheric emissions from spill response equipment will be localised and while there is potential for fauna and flora impacts, the use of mobile equipment, vessels and vehicles is not considered to create emissions on a scale where noticeable impacts would be predicted. Atmospheric emissions from spill response equipment are expected to be low.

8.8.3.4 Physical Presence and Disturbance

The use of vessels may result from deployment of anchor/chain, nearshore booms and grounding and may disturb benthic habitats in coastal waters including corals, seagrass, macroalgae and mangroves if used in nearshore waters. The use of vessels in shallow coastal waters also increases the chance of contact or physical disturbance with marine fauna such as turtles and dolphins, which have been identified along the shorelines of the JBG. The use of booms creates a physical barrier on the surface water and has the potential to entangle passing marine fauna that are either surface-breathing or -feeding.

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Shoreline response activities may require vehicles, clean-up equipment and deployment of clean-up personnel which have the potential to damage coastal habitats such as dune vegetation, mangroves and habitats important to threatened and migratory fauna including nests of turtles and birds and bird roosting/feeding areas. Similarly, in the event camps are required to be setup, there is the potential that shorebirds and turtles nesting and feeding behaviours could be impacted.

Impacts from offshore IMS released from vessel biofouling include out-competition, predation and interference with other ecosystem processes as described in Section 7.1. In shallower coastal areas, such as areas where vessel-based spill response activities may occur, conditions are likely to be more favourable.

Impacts from terrestrial invasive species are similar to offshore, whereby the invasive species can out-compete local species (such as weeds) and interfere with ecosystem processes. Non-native species may be transported attached to equipment, vehicles and clothing. Such an introduction would be especially detrimental to the relatively undisturbed flora and fauna communities along the JBG coastline.

The disturbance to marine and coastal natural habitat, as well as the potential for disruption to culturally sensitive areas may have flow-on impacts to socioeconomic values and industry (such as tourism, fisheries).

A NEBA will take into account the vehicles and equipment selected and will aim to reduce habitat damage. The establishment of access routes and demarcation zones, and operational restrictions on equipment and vehicle use, will limit damage to important fauna areas and sensitive habitat. Camps will only be set up after consultation with the relevant regulatory bodies. Following these and other control measures, the resultant potential impact to the physical environment and habitat is assessed as low.


As with all spill response activities, response strategies which may cause habitat disturbance will be considered in the operational NEBA process. It is not considered that an extensive shoreline clean-up operation, requiring multiple camps and significant vehicle/equipment use, is required, given the MDO and Blacktip condensate will evaporate and weather rapidly. Disturbance will therefore be short term, geographically confined and minor, and only occur if there is a net benefit to accessing and cleaning shoreline areas.

8.8.3.5 Operational Discharges and Waste

Offshore operational discharges from vessels may create a localised, slight, and temporary reduction in water quality and have been described in planned risks (Sections 7.6 to 7.8).

In nearshore areas, operational discharges could potentially occur adjacent to marine habitats such as corals, seagrass and macroalgae, which support a more diverse faunal community. However, discharges are expected to be very localised and temporary.

Cleaning of oil-contaminated equipment or vehicle may spread oil from contaminated areas to those areas not impacted by a spill, potentially spreading the impact area if not contained and moving oil into a more sensitive environment.

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Flushing of oil from shoreline habitats is used to remove oil from the receptor that has been oiled and remobilise back into the marine environment and result in further dispersion and evaporation of the oil. The process of flushing has the potential to physically damage shoreline receptors such as mangrove communities and increase levels of erosion. Flushing and associated risks will be considered in the operational NEBA process and only undertaken if there is a net benefit.

Sewage, putrescible and municipal waste will be generated from onshore activities at temporary camps, which may include toilet and washing facilities. These wastes have the potential to attract fauna, impact habitats, flora and fauna and reduce the aesthetic value of the environment. Sewage, putrescible and municipal waste generated onshore will be stored and disposed of at approved locations.

As with all spill response activities, response strategies which may result in waste streams will be considered in the operational NEBA process and will only occur if there is a net benefit. There will be low volumes of waste expected, as the MDO and Blacktip condensate are anticipated to rapidly evaporate and weather. Minimal waste is therefore expected to be generated and impacts from waste are anticipated to be short-term, geographically confined and slight.


8.8.4 Environmental Performance Outcomes and Control Measures

EPOs relating to this risk include:

- activities are managed in accordance with navigational and safety requirements (EPO-02)
- no unplanned interactions with other users (EPO-03)
- no significant changes to air quality (EPO-04)
- no injury or mortality to EPBC Act listed fauna during operational activities (EPO-06)
- no significant impacts to marine fauna from lighting emissions (EPO-07)
- no unplanned objects, emissions or discharges to sea or air (EPO-12)
- no discharges to sea of untreated sewage, greywater, putrescible wastes, bilge, and deck drainage (EPO-08)
- no unplanned discharge of oily water or chemicals (EPO-09)
- reduce impacts from oil spill response operations through incident planning (EPO-15).

CMs relating to this risk include:

- navigation equipment and procedures (lighting as required for safe work conditions and navigational purposes) (CM-01)
- air pollution prevention certificate (CM-04)
- vessel fuel quality (CM-05)
- regulations and measures for interacting with marine fauna (CM-08)
- vessels comply with Marine Order 96 (Marine pollution prevention – sewage) (CM-09)

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- vessels comply with Marine Order 95 (Marine pollution prevention – garbage) (CM-10)
- vessels comply with Marine Order 91 (Marine pollution prevention – oil) (CM-11)
- shallow draft vessels will be used to access remote shorelines (CM-34)
- vehicle access (if required) will be limited or restricted on dunes, turtle nesting beaches and in mangroves (CM-35)
- removal of vegetation (if required) will be limited to moderately or heavily oiled vegetation (CM-36).

EPSs and MC relating to the above are presented in Section 9.


For EPOs, EPSs and MCs relating to spill response in the event of a spill during this activity, refer to the Blacktip OPEP (000036_DV_PR.HSE.0388.000_Rev15).

8.8.5 As Low as Reasonably Practicable Demonstration

Demonstration of ALARP			
Type	Control management	Evaluation	Adoption?
Eliminate	N/A	N/A	N/A
Substitute	Vessel fuel quality (in compliance with Marine Order 97)	Reduces emissions through use of low sulphur fuel in accordance with Marine Order 97. Minimal cost as vessels are required to comply with Marine Orders.	✓ (CM-05)
Engineering	Navigation equipment and procedures (lighting as required for safe work conditions and navigational purposes)	Ensures the vessels are seen by other marine users, thereby reducing the risk of collisions. A requirement under Marine Orders, requires vessels to have navigational equipment to avoid collisions.	✓ (CM-01)
	Vessels are equipped with oily water prevention system and IMO-approved oil filtering equipment	Reduces potential impacts of planned discharge of oily water to the environment with minor administrative and maintenance cost. In compliance with Marine Order 91.	✓ (CM-11)
Isolation	Capture of contaminated waters/bilge water on vessels	Fixed equipment, such as engines and generators, are contained and captured in the bilge water tank for treatment via the OIW separator (on vessels). In compliance with Marine Order 91.	✓ (CM-11)
Administrative	Vessel air pollution prevention certificate (in compliance with Marine Order 97)	Reduces probability of potential impacts to air quality. Minimal cost as vessels are required to comply with Marine Orders.	✓ (CM-05)

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Demonstration of ALARP			
Type	Control management	Evaluation	Adoption?
	Regulations and measures for interacting with marine fauna (e.g., EPBC Regulations 8 (Part 8))	Minor cost in complying. Reduces risk of physical and behavioural impacts to marine fauna. While not directly relating to survey noise, EPBC Regulations include restrictions such as vessel speed and direction when in proximity to marine fauna and are based on legislated requirements.	✓ (CM-08)
	Implementation of measures in Marine Order 95 (Marine pollution prevention – garbage)	Marine Order 95 reduces potential impacts of inappropriate discharge of sewage. Stipulates putrescible (food) waste disposal conditions and limitations. Environmental benefit outweighs the minor administrative costs in implementing the Marine Order.	✓ (CM-10)
	Implementation of measures in Marine Order 96 (Marine pollution prevention – sewage)	Marine Order 96 reduces the probability of garbage being discharged to sea. Environmental benefit outweighs the minor administrative costs in implementing the Marine Order.	✓ (CM-09)
	Vessels comply with Marine Order 91 (Marine pollution prevention – oil)	Marine Order 91 stipulates the oily water prevention system and treatment requirements for OIW discharge from vessels. Environmental benefit outweighs the minor administrative costs in implementing the Marine Order.	✓ (CM-11)
	Shallow draft vessels will be used to access remote shorelines	Aims to minimise the impacts associated with seabed disturbance on approach to the shorelines during a response activity. Incident Action Plan (IAP) process will include further assessment on the vessel use/requirement.	✓ (CM-34)
	Vehicle access (if required) will be limited or restricted on dunes, turtle nesting beaches and in mangroves	Aims to minimise impacts to turtle nesting beaches and in mangroves that may be accessed in a response. IAP process will include further assessment on the vessel use/requirement.	✓ (CM-35)
	Removal of vegetation (if required) will be limited to moderately or heavily oiled vegetation	Aims to reduce the removal of oiled vegetation. Allows for as much habitat to remain as possible. IAP process will include further assessment on the vessel use/requirement.	✓ (CM-36)

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8.8.6 Acceptability Demonstration

Demonstration of acceptability	
Compliance with Legal Requirements, Laws and Standards	<p>Response vessels will comply with the EPBC Regulations 2000 Part 8 and the Australian National Guidelines for Whale and Dolphin Watching (Commonwealth of Australia, 2017d).</p> <p>Response vessels will comply with relevant MARPOL/Marine Order requirements as detailed throughout Sections 7 and 8. Blacktip response operations are compliant with the EPBC approval conditions (EPBC 2003/1180).</p>
Policy Compliance	<p>The management of response operations is aligned with Eni policies and standards. The residual risk is Low, which is acceptable.</p> <p>The EPO and the controls that will be implemented are consistent with Eni internal requirements</p>
Social Acceptability	<p>Stakeholders have been consulted. To date, no relevant person concerns have been raised regarding response operations.</p> <p>An ongoing consultation program will consider statements and claims made by stakeholders when assessing impacts and risks.</p>
Area Sensitivity/ Biodiversity	<p>Eni has considered information contained in relevant recovery plans and approved conservation advice for cetaceans and marine turtles that identify chemical discharges and pollution as a threat (as listed in Table 2.3). Blacktip response operations are not inconsistent with the objectives and actions detailed in the recovery plans and approved conservation advice.</p> <p>The Joseph Bonaparte Gulf AMP is 50km east of the Operational Area. The Blacktip drilling activities are not inconsistent with the IUCN principles, the North Marine Parks Network Management Plan objectives, or the values of the Joseph Bonaparte Gulf AMP (refer Table 4.9).</p>
ESD Principles	<p>Blacktip response operations are consistent with the principles of ESD because:</p> <ul style="list-style-type: none"> the impacts associated with the response operations do not result in 'threats of serious or irreversible harm' as detailed within the EPBC Act and biodiversity and ecological integrity will be maintained there are no identified health, diversity or productivity impacts that may affect the biodiversity or ecological function for future generations.
ALARP	The residual risk has been demonstrated to be ALARP.

Given the controls that will be implemented, the residual risk is considered low, which is acceptable in accordance with Eni's acceptability criteria (Table 6.5). Potential impacts are acceptable and ALARP.

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8.8.6.1 Spill Response Strategies

A number of oil spill response strategies have been evaluated for implementation in the event of a spill. Strategy identification is based on strategies which have been implemented in the past or considered to be good industry practice. Table 8.19 presents the evaluation on the implementation of these strategies based on their suitability for the credible spill scenarios identified in this EP.

The key considerations taken into account in the evaluation were:

- properties and weathering profile of the Blacktip condensate and MDO
- nature and scale of the credible spill scenario
- safety and environmental risks and impacts involved with the response.




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Table 8.19: Spill response strategies considered for the mitigation of contact from hydrocarbon spills


Strategy	Description	Applicability and environmental benefit	Hydrocarbon type	Adopt/reject
Source control	Subsea well intervention	The Blacktip wellheads are located on the WHP and the drilling of the Blacktip well is through an existing slot on the WHP. No wellheads are on the seabed. Subsea intervention operations are therefore not applicable.	Blacktip condensate	Reject
			MDO	N/A
	Deployment of Subsea First Response Toolkit	Subsea first-response equipment has the ability to clean around the well and prepare for relief well drilling and installation of a capping device. The wellheads for the Blacktip production wells (and the drilling of the development well) are located on the WHP and are therefore surface wellheads. All equipment listed as Subsea First Response Toolkit cannot be used for surface spill response. In the event the WHP collapses and there is an uncontrolled subsurface release, the development well will have no wellhead and no BOP, hydrocarbons will be flowing through an open hole via the conductor on the seabed. Therefore, the capping stack is unable to attach and seal.	Blacktip condensate	Reject
			MDO	N/A
	Installation of a capping stack	A capping stack is designed to be installed on a subsea well and provides a temporary means of sealing the well, until a permanent well kill can be performed through either a relief well or well re-entry. The wellheads for the Blacktip production wells (and the drilling of the development well) are located on the WHP and are therefore surface wellheads. The capping stack is not suitable for use above sea level. In the event the WHP collapses and there is an uncontrolled subsurface release, the well will have no wellhead and no BOP (these would have been lost during platform collapse) and hydrocarbons will be flowing through an open hole via the conductor on the seabed. There is an operational need that the stack is able to attach and seal on a subsea well during a well blowout, then shut it in safely. To achieve this, a mandrel or hub profile must be exposed (either at the wellhead or on top of the BOP). This will not be available in the event the WHP collapses; therefore, the use of the capping stack is not applicable.	Blacktip condensate	Reject
			MDO	N/A

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Strategy	Description	Applicability and environmental benefit	Hydrocarbon type	Adopt/reject
	Drilling of a relief well	The drilling of a relief well is considered to be the primary control in the event of a loss of well control and will be implemented regardless of any other controls in place. This control when implemented successfully will prevent further loss of hydrocarbon to the environment.	Blacktip condensate	Adopt
			MDO	N/A
	Vessel SOPEP	Applicable to MDO spills from vessels only. The SOPEP is the procedure for responding to a vessel spills.	Blacktip condensate	N/A
			MDO	Adopt
Monitor and evaluate	Monitoring and evaluation is used to predict and monitor the trajectory and fate of the spill, to determine the effectiveness of response strategies and to identify and report on any potential and actual contacts to flora that occurs.	Applicable to all spill scenarios. There are various specific techniques (vessel and aerial surveillance, oil spill modelling) within this response strategy which may be suitable. Use will be based on the spill fate and volumes as well as other considerations such as access to locations and environmental and metocean conditions. Monitoring and evaluation is used to inform further response planning and execution and the operational NEBA.	Blacktip condensate	Adopt
			MDO	Adopt
Subsea chemical dispersant	Subsurface chemical dispersant involves dispersant applied directly into the wellhead location at the release point. Subsea chemical dispersant injection is used to disperse the oil to enable safe implementation of the subsequent controls.	The Blacktip wellheads are located on the WHP and the drilling of the Blacktip well is through an existing slot on the WHP. Therefore, subsea chemical dispersion is not applicable.	Blacktip condensate	Reject
			MDO	N/A

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Strategy	Description	Applicability and environmental benefit	Hydrocarbon type	Adopt/reject
Surface chemical dispersion	Chemical dispersant is applied to break down the hydrocarbons and allow and enhance dispersion into the water column, thereby preventing and reducing potential shoreline contact and increasing biodegradation.	MDO and condensates are not conducive to chemical dispersion due to rapid evaporation and low surface concentrations. A weathering study on Blacktip condensate by Intertek in 2013 showed the rate of evaporation of Blacktip condensate is rapid with 67% of the volume of the condensate is lost within the first two hours and 89% by eight hours. Between eight and 72 hours only a further 7% is lost, reaching a maximum weathering at 72 hours of 95% lost volume (Intertek, 2013).	Blacktip condensate	Reject
			MDO	Reject
Physical dispersion	Physical dispersion is undertaken by running vessels through the hydrocarbon plume and using the turbulence developed by the propellers or hydro-blasting from vessel hydrants to break up the slick. The process enhances dispersion.	MDO and Blacktip condensate are not conducive to physical dispersion due to rapid evaporation and low surface concentrations. Physical dispersion is typically only effective on surface oil concentrations >50g/m ² . Surface hydrocarbons in the event of a well blowout are only expected to exceed 10g/m ² in the immediate vicinity of the well for a very short period. A weathering study on Blacktip condensate by Intertek in 2013 showed the rate of evaporation of Blacktip condensate is rapid, with 67% of the volume of the condensate lost within the first two hours and 89% by eight hours. Between eight and 72 hours, only a further 7% is lost, reaching a maximum weathering at 72 hours of 95% lost volume (Intertek, 2013).	Blacktip condensate	Reject
			MDO	Reject
Containment and recovery	Containment and recovery of hydrocarbons can offer a preventive form of protection to sensitive receptors. Skimmers (mechanical) and booms will be used at sea. This strategy is only effective in calm conditions.	MDO and Blacktip condensate are not conducive to physical dispersion due to rapid evaporation and low surface concentrations. Containment and recovery is effective on oil concentrations >50g/m ² . Surface oil concentrations from a well blowout of Blacktip condensate are not predicted to exceed 10g/m ² and 25g/m ² surface oil thresholds at probabilities greater than 10% and 1%, respectively. Any exceedance is in the immediate vicinity of the well. Containment and recovery responses are therefore not effective. Floating oil concentrations from other releases are not predicted to exceed 10g/m ² and 25g/m ² .	Blacktip condensate	Reject
			MDO	Reject

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Strategy	Description	Applicability and environmental benefit	Hydrocarbon type	Adopt/reject
Protection and deflection	Protection and deflection activities involve the use of booms to deflect spills away from sensitive receptors and toward an area that provides increased opportunity for recovery activities.	<p>MDO and condensates are generally not conducive to protection and deflection strategies due to their rapid evaporation and low surface concentrations.</p> <p>Protection and deflection responses are effective on oil concentrations >50g/m². Surface oil concentrations from a well blowout of Blacktip condensate is not predicted to exceed 10g/m² and 25g/m² surface oil thresholds at probabilities greater than 10% and 1%, respectively. Any exceedance is in the immediate vicinity of the well. Protection and deflection responses are therefore not effective.</p> <p>Floating oil concentrations from other releases are not predicted to exceed 10g/m² and 25g/m².</p>	Blacktip condensate	Reject
			MDO	Reject
Shoreline clean-up	During a spill response, clean-up of the oiled shorelines will be implemented using suitable methods, provided it will be beneficial to the environment based on the NEBA performed on the affected areas based on actual site conditions.	<p>MDO and condensates are generally not conducive to shoreline clean-up strategies due to their rapid evaporation.</p> <p>There is not expected to be significant shoreline hydrocarbon from a worst-case loss of well control event at concentrations ≥100g/m²; however, as a precaution, shoreline assessment/clean-up is included as a response strategy. Shoreline accumulation is not expected for other spill scenarios.</p> <p>Owens and Sergy (1994) define accumulated hydrocarbon <100g/m² to have an appearance of a stain on shorelines. French-McCay (2009) defines accumulated hydrocarbons ≥100g/m² to be the threshold that could impact the survival and reproductive capacity of benthic epifaunal invertebrates living in intertidal habitat. The ≥100g/m² concentration is not anticipated to be reached on the shorelines; however, a shoreline assessment will inform whether a response is required.</p> <p>A shoreline assessment will advise whether there is any clean-up potential for any shoreline accumulation volumes. Natural collection points along the coastline will be the focus of the shoreline clean-up.</p> <p>Contacted shorelines will be assessed for their shoreline clean-up potential based on an Operational NEBA (informed by the shoreline assessment). The clean-up can have the potential to remediate the shoreline quicker than if</p>	Blacktip condensate	Adopt
			MDO	Adopt

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Strategy	Description	Applicability and environmental benefit	Hydrocarbon type	Adopt/reject
		being left to natural remediation. Particularly during turtle or seabird nesting seasons, there may be less impact from not undertaking shoreline clean-up.		
Oiled wildlife response (OWR)	OWR aims to prevent wildlife from becoming oiled and treat animals that do become oiled.	<p>There is not expected to be significant shoreline hydrocarbon from a worst-case loss of well control event; however, as a precaution, OWR is included as a response strategy. Shoreline accumulation is not expected for other spill scenarios but is available.</p> <p>The JBG coast and the Kimberley north shorelines have the potential for shoreline contact from a loss of well control event in very low quantities (refer Section 8.6). Both shorelines have been identified as having potential wildlife inhabiting them. Mobilisation of experts, trained work forces, facilities and equipment will then be needed to assess oiled wildlife and respond as required.</p> <p>Options for wildlife management have to be considered and a strategy determined guided by the WA Oiled Wildlife Response Plan and the NT Wildlife Response Plan for Oil Spills.</p> <p>Offshore OWR is not applicable due to the low concentrations of surface hydrocarbons.</p>	Blacktip condensate	Adopt
			MDO	Adopt
In-situ burning	<p>Technique involves the controlled burning of oil that has spilled (from a vessel or a facility).</p> <p>On conducive hydrocarbons, and when conditions are favourable and conducted properly, in situ burning will reduce the amount of oil on the water.</p>	<p>For in-situ burning to be undertaken, oil has to be thicker than 1 to 2 mm. MDO is not conducive to in-situ burning due to rapid evaporation and low surface concentrations. Blacktip condensate and MDO weathers rapidly and would likely become unsuitable for burning within 24 hours.</p> <p>Floating oil concentrations from a well blowout of 4943m³ of Blacktip condensate are not predicted to exceed 10g/m² and 25g/m² surface oil thresholds at probabilities greater than 10% and 1%, respectively. The maximum distance to the outer extent of the 1g/m² is predicted to be 19km. In situ burning is therefore not effective.</p>	Blacktip condensate	Reject
			MDO	Reject

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Strategy	Description	Applicability and environmental benefit	Hydrocarbon type	Adopt/reject
Scientific Monitoring	This is the main tool for determining the extent, severity, and persistence of environmental impacts from an oil spill and allows operators to determine whether their environmental protection outcomes have been met (via scientific monitoring activities). This strategy also evaluates the recovery from the spill.	<p>Scientific monitoring is especially beneficial for the purpose of monitoring entrained and dissolved oil impacts. Response strategies are generally targeted to manage the surface oil impacts.</p> <p>For information about scientific monitoring, refer to the Blacktip Operational and Scientific Monitoring Plan (000036_DV_PR.HSE.0860.000).</p>	Blacktip condensate	Adopt
			MDO	Adopt

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8.8.7 Spill Response and Operational Monitoring Plan Strategies ALARP Assessment

Table 8.20 presents an ALARP assessment on the level of resourcing for spill response strategies identified in Table 8.19 for adoption. The Blacktip OPEP (000036_DV_PR.HSE.0388.000_Rev15) includes a further ALARP assessment of the source control and Incident Management Team arrangements.

Table 8.21 presents an ALARP assessment on the level of resourcing for Operational Monitoring Plan (OMP) strategies identified in the Blacktip Operational and Scientific Monitoring Plan (000036_DV_PR.HSE.0860.000).




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Table 8.20: As low as reasonably practicable assessment of the level of resourcing available for spill response strategies


Strategy	Resourcing	Justification	Additional resource consideration	Proportionality – cost/benefit	ALARP assessment
Source control					
Relief well (Blacktip Operations OPEP includes a further ALARP assessment on relief well capability)	Relief well plan in place for Blacktip wells. APPEA MoU provides for access to other operator's rigs.	A number of source control options have been evaluated in Table 8.19. Of these source control options; the drilling of a relief well is considered the primary means of controlling the source in the event of an unplanned well release.	Having a MODU on location permanently and under contract to Eni for relief well drilling. This additional control could reduce the length of time taken to source a relief well.	Having a MODU on location (and personnel on standby) for drilling top-hole sections of a relief well would reduce the timeframe to source a relief well. However, given the location of the field within a relative high oil and gas area, it is likely a MODU could be sourced within relative proximity. Since the daily spread rate of a MODU is ~\$650,000 per day, the approximate cost of having a MODU on standby or contracted for drilling top holes is disproportionate to the environmental benefit, particularly given the low likelihood of shoreline contact.	Having a MODU and personnel and equipment on standby would double the cost of drilling a well; this is considered grossly disproportionate to the environmental benefit (reduction of two weeks of release volumes), particularly considering the spill is predicted to largely weather and evaporate offshore with minimal shoreline contact.

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Strategy	Resourcing	Justification	Additional resource consideration	Proportionality – cost/benefit	ALARP assessment
Monitor and evaluate					
Aerial surveillance	<p>Helicopter services available through Eni, primary contracted supplier based out of Darwin.</p> <p>Aircraft are also available through AMOSC and AMSA.</p> <p>Initial aerial observation using helicopter will occur within three hours of notification of the spill.</p> <p>Trained observers will be sourced from AMOSC, AMSA and Oil Spill Response Limited (OSRL) to undertake the required aerial surveillance in the event of a spill.</p>	<p>Given location of spill site, mobilisation of helicopters from Darwin is considered adequate for surveillance.</p> <p>If aerial surveillance is required, an over-flight schedule is developed by the IMT. The frequency of flights will be sufficient to ensure the information collected during each flight (as in, observer log and spill mapping) meets the information needs to validate dispersion of the spill.</p>	<p>Resource not considered limiting.</p> <p>Primary supplier on contract with additional providers available to provide desired overpass frequency.</p> <p>Trained observers can be provided on rotation from Day 2.</p>	<p>No additional cost to maintain capability as helicopters are currently contracted for operations to and from Eni facilities.</p> <p>In the event additional overpasses are required due to data gaps, the cost of the additional flights will be added to the cost of the response.</p>	<p>There is no value in increasing dedicated overpasses and therefore the arrangements are considered ALARP; however, opportunistic aerial surveillance can be provided through the shared use of aircraft deployed for other purposes.</p>

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Strategy	Resourcing	Justification	Additional resource consideration	Proportionality – cost/benefit	ALARP assessment
Vessel surveillance	<p>Vessels contracted to Eni for the activity duration.</p> <p>Vessels of opportunity from other operators.</p> <p>Additional vessels contracted through Eni vessel providers out of Darwin.</p> <p>In the event of a spill when a vessel is not on site (such as during ongoing production), a vessel will be sourced within 24 hours.</p>	<p>Some activities under the Blacktip drilling activities involve multiple vessels. Should a spill incident occur, those not involved in the incident can provide surveillance.</p> <p>Additional mobilisation from Darwin can be made through Eni’s contracted vessel providers within 24 hours.</p> <p>This strategy is not designed to perform ‘whole of spill’ coverage, which is provided by aerial surveillance (as in, it is a secondary strategy).</p>	<p>Based on the likelihood of vessels available on-site during activities (drilling, inspection, maintenance, repair and survey), having additional vessels for the purpose of oil spill surveillance is not considered to be required, given the need is met through vessel-sharing.</p> <p>In the event of a spill when a vessel is not available (WHP spill during ongoing operations), it is considered aerial surveillance will be adequate to monitor the spill.</p> <p>Surveillance will also be conducted through complementary strategies (aerial surveillance, oil spill trajectory modelling, tracker buoys).</p>	<p>The current vessels arrangements and contracts are considered to provide the required function.</p> <p>Dedicated vessels on standby for vessel surveillance would cost tens of thousands of dollars per day and are not considered required.</p>	<p>There is no benefit in having additional dedicated surveillance vessels, given surveillance can be performed from any vessel and these duties will be shared among spill response vessels.</p>

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Strategy	Resourcing	Justification	Additional resource consideration	Proportionality – cost/benefit	ALARP assessment
Tracker buoys (available on MODU or support vessel during drilling)	One tracker buoy to be deployed from support and contracted vessels. Subscription to tracker buoy tracking website. Subject to weather and vessel availability, the tracker buoys can be mobilised within three hours from a support vessel upon request from the IMT or on-scene commander.	Tracker buoys will be used in addition to aerial surveillance to provide real-time verification data, particularly beneficial at night and in conditions limiting aerial surveillance. Vessels for buoy deployment will be Eni-contracted vessels and other vessels of opportunity. Vessels can be shared across this and other tasks (such as surveillance).	Additional buoys are available through secondary suppliers (such as AMOSC, OSRL and AMSA – more than 20 buoys available) if required. Dedicated vessels are not required, given need is met through vessel-sharing.	Other tracking buoy availability through AMSA, AMOSC, OSRL within days. There is no additional upfront cost for accessing these secondary buoys. Given the WHP is unpopulated, a tracking buoy cannot be deployed. A tracking buoy will be available on a support vessel; therefore, it is not considered a requirement to have an additional buoy on the MODU during drilling.	The number of buoys immediately available (one can be deployed from a vessel if during contracted periods) and the availability of secondary buoys within days is sufficient to track oil fronts, especially given the spread of oil will be limited within the initial days of the spill. No additional response requirements and the response is considered ALARP.
Satellite monitoring	Eni has access to emergency satellite monitoring for its operations through the AMOSC services. 24/7 emergency image delivery service and standby support.	Provides near-real-time services for oil spill and support vessel detection targeting delivery in 15 minutes from data availability (in the case of a spill being detected or suspected). The satellites will provide two images per day and a report shall be provided daily to Eni.	Resource is not considered limiting, with no environmental benefit from dedicating additional monitoring capability.	Provides satellite monitoring covered under the AMOSC services.	There is no environmental benefit in having additional satellite monitoring capabilities.

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Strategy	Resourcing	Justification	Additional resource consideration	Proportionality – cost/benefit	ALARP assessment
Oil spill trajectory modelling	<p>The oil spill trajectory modelling will be sourced, via AMOSC or Eni headquarters, within 24 hours using its 24/7 emergency capability.</p> <p>Oil spill trajectory modelling is also available through panel consultants.</p>	The modelling supplier can provide updates to the IMT of trajectory model outputs to inform response planning.	Predictive oil spill modelling will be used to forecast (using real-time data) the trajectory and fate of the spill. Resource is not considered limiting with no environmental benefit from dedicating additional modelling capability.	<p>Supplied through AMOSC or Eni headquarters. As a member company of AMOSC, Eni has access to AMOSC's oil spill recovery and response equipment, training, technical capabilities along with those resources held by member companies as outlined in the AMOSPlan.</p> <p>Eni headquarters in Milan maintains oil spill trajectory modelling capability and also has 24/7 emergency capability.</p>	There is no environmental benefit in having additional modelling capabilities.

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Strategy	Resourcing	Justification	Additional resource consideration	Proportionality – cost/benefit	ALARP assessment
Protection and deflection					
Protection and deflection booms	Shoreline and nearshore boom is available through AMOSC, OSRL or AMSA, including various lengths of land and sea boom, shoreline protection booms, sorbent booms from stockpiles in Darwin and other Australian cities. Spill response teams (AMOSC, AMSA and OSRL responders).	Shoreline and nearshore boom provided through AMOSC or AMSA is available from Mutual Aid arrangements. AMOSC also provides access to additional boom from other operators. Offshore protection and deflection aim to prevent oil from reaching a sensitive location. If successfully implemented, offshore protection and deflection can eliminate the requirement to access shorelines, if all oil is deflected.	Boom equipment is not considered limiting as stocks through AMOSC, OSRL or AMSA are considered adequate. Prepositioning or having personnel and equipment at an enhanced standby footing would reduce deployment time. However, pre-deploying boom at sensitive locations creates potential for impacts which, weighed against the uncertainty of an oil spill reaching the location, are deemed to be disproportional.	The cost of boom, vessels and personnel on an enhanced standby is disproportionate to the environmental benefit, based on the timeframes needed to undertake oil spill modelling and surveillance activities and a NEBA in order to establish the areas to be protected by boom.	The environmental benefits in having additional or pre-positioned resources cannot be confirmed. MDO and Blacktip condensate weather and evaporate at quick rates and therefore are unlikely to be present on the surface for a significant period, which would require extensive boom use. The current arrangements are considered ALARP.
Shoreline clean-up					
Shoreline clean-up	Manual clean-up and flushing equipment (AMOSC, AMSA). Clean-up team leaders (through AMOSC and AMSA).	While no shoreline accumulation at >100g/m ² is predicted to occur, and an extensive shoreline response requirements are not anticipated, the strategy is available to Eni and is adopted as a precautionary measure for the event that monitoring predicts	The main limitation of undertaking a shoreline clean-up response is based around access for plant and personnel to remote offshore island locations. Particularly given the	During a spill event, the cost of additional resources is not considered; the limiting factor is considered to be numbers of personnel available to	The level of resources available are considered to be appropriate, given shoreline accumulation volumes are not expected. The outcome of oil spill modelling and surveillance and a NEBA

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Strategy	Resourcing	Justification	Additional resource consideration	Proportionality – cost/benefit	ALARP assessment
	<p>Labour personnel (labour hire as required).</p> <p>Eni has arrangements in place with TOLL Group, which includes vessel hire such as barges, vessels and landing craft from Darwin.</p>	<p>impacts to key shoreline sensitives.</p>	<p>remote nature of the north Kimberley Coastline and the JBG East and West coast.</p> <p>Additional resources may include permanent pre-positioning clean-up equipment on the shoreline prior to a spill event occurring.</p>	<p>undertake shoreline clean-up.</p> <p>Mobilising additional personnel to undertake shoreline clean-up via vessel to remote offshore locations presents increased associated health and safety risks. Personnel mobilised via helicopter is limited to ten passengers per trip. Once at the locations, there is a need to provide adequate facilities.</p>	<p>would be used to identify priorities for protection at specific locations, given the time of year, such as during turtle nesting season, where shoreline clean-up efforts would be directed at nesting beaches. Therefore, the response is considered ALARP.</p> <p>Decision to implement shoreline clean-up will be undertaken by the IMT when the findings of the NEBA demonstrate shoreline clean-up techniques used will deliver environmental benefits.</p>

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Strategy	Resourcing	Justification	Additional resource consideration	Proportionality – cost/benefit	ALARP assessment
Waste management					
Waste management	<p>Assorted waste receptacles and trucks.</p> <p>Waste personnel – project manager, local responsible personnel and operations personnel.</p> <p>Eni has arrangements in place with a logistics provider, which has a number of barges, vessels, and landing craft available in Darwin.</p> <p>A standing contract exists between Darwin Veolia and Eni for the disposal of waste.</p>	Eni's waste service provider, Veolia, is contracted to ongoing waste storage, transport and disposal requirements.	Veolia has sufficient resources for the worst-case waste clean-up requirements; there is no benefit to acquiring additional resources specifically for the activity.	Veolia contract provides resources to meet waste management requirements.	<p>Resources are considered to be adequate and ALARP.</p> <p>MDO and condensate waste volumes recovered from clean-up are considered to be low, given the MDO and condensate quick evaporation and weathering potentials.</p>

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Strategy	Resourcing	Justification	Additional resource consideration	Proportionality – cost/benefit	ALARP assessment
Oiled wildlife response					
Oiled wildlife response	Oiled wildlife response kits and containers. OWR personnel.	<p>All OWR efforts would be undertaken in consultation with Department of Biodiversity, Conservation and Attractions (DBCA) and Parks and Wildlife (NT), and Eni would undertake the response after the outcome of an operational NEBA that would direct efforts for maximum effectiveness.</p> <p>While an extensive OWR is not anticipated, the strategy is available to Eni and is adopted as a precautionary measure for the event that monitoring predicts impacts to key shoreline sensitives and species.</p>	<p>Pre-positioning of staging areas and responders has been considered for this spill scenario, given the worst-case timeframe for oil on shorelines may be as soon as two hours from an MDO spill.</p> <p>As Eni has access to OWR kits through third-party agreements that can be mobilised in a timely manner, it is not considered to be necessary to increase resources.</p> <p>Purchasing of an OWR kit by Eni has been discounted as any OWR would be in consultation with DBCA and Parks and Wildlife (NT) upon completion of a NEBA.</p>	The cost of personnel (Level 1 responders) on standby is \$1,500 per person per day. Given personnel on this level can be arranged within relatively short timeframes through other bodies, there is not considered sufficient environmental value in having dedicated OWR responders on standby.	Given significant shoreline accumulation volumes are not expected from any Blacktip drilling activity hydrocarbon release. If required, resourcing required for OWR is considered to be within the capacity of existing response arrangements and are considered ALARP.




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Table 8.21: As low as reasonably practicable assessment of the level of resourcing available for Operational Monitoring Plan strategies


Strategy	Resourcing	Justification	Additional resource consideration	Proportionality – cost/benefit	ALARP assessment
OMP1: Monitoring of Surface Hydrocarbon Distribution at Sea and Marine Megafauna Observations					
Aerial surveillance	Refer to Monitor and Evaluate in Table 8.20, above.				
Vessel surveillance	Refer to Monitor and Evaluate in Table 8.20, above.				
Satellite monitoring	Refer to Monitor and Evaluate in Table 8.20, above.				
Oil spill trajectory modelling (OTSM)	Refer to Monitor and Evaluate in Table 8.20, above.				
Unmanned aerial vehicle (UAV)	Access to various Unmanned Ariel Vehicle (UAV) providers via OSRL on a best endeavours basis.	UAVs provide an additional monitoring capacity to cover specific areas of interest identified during the response via aerial or vessel surveillance. UAVs are accessed through OSRL as they require trained operators and specific maintenance.	Purchasing UAVs and training Eni personnel as operators, so UAV access can be guaranteed immediately in the event of a spill.	Cost of purchasing UAVs and training personnel outweighs benefit. Given that the main strategy for monitoring the spill is from aerial surveillance (helicopter) and vessel surveillance, purchasing UAVs specifically and training Eni personnel as operators does not result in better coverage of the spill initially and is a costly process. The access to UAVs through an existing OSRL contract is aimed to monitor specific areas identified by the vessel and aerial surveillance and its use is not	There is no environmental benefit in purchasing UAVs and training Eni personnel as UAV operators given coverage of the spill can initially be made using vessels and aerial observation.

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Strategy	Resourcing	Justification	Additional resource consideration	Proportionality – cost/benefit	ALARP assessment
				required immediately during the spill event. In addition, sensitive shoreline receptors which may be monitored using a UAV are not anticipated to be contacted in the event of a hydrocarbon release.	
Aerial surveillance trained observer	Trained observers will be sourced from AMOSC, AMSA and OSRL to undertake the required aerial surveillance in the event of a spill. Can make visual observations within 24 hours of mobilisation.	The spill will move with the currents and sensitive receptors are not anticipated to be contacted by surface oil. Given the spill size, a large-scale response is not required. Mobilising aerial surveillance trained observers within 24 hours is considered adequate.	Access to personnel in less than 24 hours to monitor the spill	Does not provide any additional environmental benefit or quicker coverage of the spill. Visual observation – from aircraft/helicopter can be made within 24 hours of mobilisation. Access to vessels and aerial surveillance would be a limiting factor and has been discussed in Table 8.20, above.	Costs of having personnel ready to mobilise in less than 24 hours to monitor the spill grossly outweighs the environmental benefit. Access to personnel is not a limiting factor. Does not provide any additional environmental benefit or quicker coverage of the spill.
OMP2: Monitoring of Hydrocarbons: Weathering and Behaviour in Marine Waters					
Water sampling equipment to detect hydrocarbon presence and estimate oil concentrations	Access to: <ul style="list-style-type: none"> one Turner C3 Fluorometer (submersible) one OSRL fluorometry unit operator. 	Fluorometers and backscatter sensors to detect hydrocarbon presence and estimate oil concentrations in the marine environment. Access timing aligns with access to the vessel (24 hours).	Access to additional fluorometers	Provides no additional benefit. Additional fluorometers can be mobilised, however, not within 24 hours. Given the size of the spill, one fluorometer has been determined to be required initially.	No additional environmental benefit gained.

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Strategy	Resourcing	Justification	Additional resource consideration	Proportionality – cost/benefit	ALARP assessment
	Within 24 hours via OSRL				
Autonomous underwater vehicle to provide understanding of entrained hydrocarbons	Access to: <ul style="list-style-type: none"> one autonomous underwater vehicle (AUV) with fluorometry sensor one AUV engineer On a best endeavours basis via OSRL.	Autonomous underwater vehicle to provide understanding of entrained hydrocarbons.	Contracted access within a defined timeframe (e.g., 34 hours)	High cost with little environmental benefit. Submersible fluorometers are able to provide an assessment of hydrocarbon presence in first instance.	No additional environmental benefit gained.
OMP3: Shoreline Assessment Surveys					
Shoreline assessment team and surveyors	Shoreline assessment team. Shoreline surveyors. Onsite within five days, or 24 hours prior to shoreline contact (if prolonged time to shoreline contact). Access through: AMOSC, National Plan resources through AMSA, OSRL.	Shoreline contact is not anticipated at a threshold at which a response can be effectively undertaken. The spill will move with the currents and sensitive receptors are not anticipated to be contacted by surface oil. Access to personnel through AMOSC, National Plan resources through AMSA, OSRL is determined adequate.	Additional access of shoreline assessment personnel within five days.	Does not provide any additional benefit given the no shoreline contact is expected.	No additional environmental benefit gained.
Unmanned aerial vehicle (UAV)	Refer to OMP1: Monitoring of Surface Hydrocarbon Distribution at Sea and Marine Megafauna Observations, above.				
Aerial surveillance	Refer to Monitor and Evaluate in Table 8.20, above.				
Vessel surveillance	Refer to Monitor and Evaluate in Table 8.20, above.				

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9 ENVIRONMENT OUTCOMES, STANDARDS AND MEASUREMENT CRITERIA

OPGG(S)(E) Regulation 21(7) requires an EP to include EPOs, EPSs and MC that:

- address legislative and other controls that manage environmental features of the activity
- define objectives and set standards for measuring Eni's performance in protecting the environment during its operations
- include measurement criteria for assessing whether performance outcomes and standards have been met.

The terms used for measuring the environmental performance are defined below:

- EPO – is a statement of the goal that Eni aims to achieve with regard to the management of a given hazard.
- EPS – is a statement of performance required of a system, an item of equipment, a person or a procedure that is used as a basis for managing environmental risk. Generally, a number of standards may relate to a single objective.
- MC – defines how the application of the performance standard will be verified. Several measurement criteria may relate to a single performance standard. Measure criteria are defined in a manner that enables efficient inspection and audit against the performance outcomes and allows for an audit trail.

To ensure environmental risks and impacts will be of an acceptable level, EPOs have been defined and are listed in Table 9.1. These outcomes will be achieved by implementing the identified control measures to the defined EPSs.


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Table 9.1: Environmental performance outcomes

Reference	Environmental Performance Outcomes
EPO-01	Information is provided to relevant persons to manage impacts on their functions, interests and activities
EPO-02	Activities are managed in accordance with navigational and safety requirements
EPO-03	No unplanned interactions with other users
EPO-04	No significant changes to air quality
EPO-05	Maximise efficiency of combustion during flaring
EPO-06	No injury or mortality to EPBC Act listed fauna during operational activities
EPO-07	No significant impacts to marine fauna from lighting emissions
EPO-08	No unplanned discharges to sea of untreated sewage, greywater, putrescible wastes, bilge and deck drainage
EPO-09	No unplanned discharge of oily water or chemicals
EPO-10	No impact to water quality or marine biota greater than a severity level of 2 from discharge of drilling cuttings or fluids
EPO-11	Seabed disturbance limited to planned activities
EPO-12	No unplanned objects, emissions or discharges to sea or air
EPO-13	No introduction of IMS from Blacktip operations
EPO-14	No loss of containment of hydrocarbons to the marine environment
EPO-15	Reduced impacts from oil spill response operations through incident planning

9.1 Control Measures and Performance Standards

The CMs that will be used to manage identified environmental impacts and risks, and the associated statements of performance required of the control measure (as in, EPSs) are listed in Table 9.2.

A separate set of performance standards based on the oil spill response operational control measures are included in the Blacktip OPEP (000036_DV_PR.HSE.0388.000_Rev15).




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Table 9.2: Control measures and environmental performance standards


Control measure	Environmental performance standard	Measurement criteria
CM-01 Navigation equipment and procedures (lighting required for safe work conditions and navigational purposes)	EPS-1.1. Navigation equipment and procedures on vessels and MODU compliant (where applicable) with standard maritime safety/navigation procedures including AMSA Marine Order Part 30 (Prevention of Collisions) 2009, including (where applicable): <ul style="list-style-type: none"> adhering to steering and sailing rules including maintaining lookouts (e.g., visual, hearing, radar), proceeding at safe speeds, assessing risk of collision and taking action to avoid collision (monitoring radar) adhering to navigation light display requirements, including visibility, light position/shape appropriate to activity adhering to navigation noise signals as required. 	MC-1.1 Vessels and MODU have a current (<12 months) International Marine Contractors Association or Offshore Vessel Inspection Database certificate prior to mobilisation and show compliance with the applicable Marine Order requirements.
	EPS-1.2. Navigation equipment and procedures on vessels and MODU compliant (where applicable) with standard maritime safety/navigation procedures, including AMSA Marine Order Part 21 (Safety of Navigation and Emergency Procedure) 2012, including: <ul style="list-style-type: none"> adherence to minimum safe manning levels maintenance of navigation equipment in efficient working order (compass/radar) navigational systems and equipment required are those specified in Safety of Life at Sea (SOLAS) Chapter V (Regulation 19) installation of Automatic Identification System as required by vessel class in accordance with SOLAS Chapter V (Regulation 19). 	
CM-02 Consultation with relevant persons (including notification requirements)	EPS-2.1 Eni has provided consultation update to relevant persons, and all correspondence has been recorded in the consultation database.	MC-2.1 Records of transmittal and stakeholder database.
	EPS-2.2 The Australian Hydrographic Office (AHO) is notified four weeks prior to commencing activities so they can then issue a Notice to Mariners.	MC-2.2 Notice to AHO completed.
	EPS-2.3 The AMSA RCC (as part of marine safety division) will be notified of the activities four weeks prior to mobilisation to ensure navigation AUSCOAST warnings can be issued and kept up to date.	MC-2.3 Notice to AMSA RCC completed.
	EPS-2.4 Defence is notified a minimum of five weeks prior to the commencement of activities. Notification will be provided to Offshore.Petroleum@defence.gov.au . Note: Defence will also be made aware of any high velocity exhaust gas plumes and/or burn-offs that could impact safety of flights.	MC-2.4 Notice to Defence completed.
CM-03 500m Petroleum Safety Zone <i>Note the drilling is at the WHP, which already has an in-force 500m PSZ</i>	EPS-3.1 A 500m PSZ maintained around the WHP and MODU and communicated to marine users to prevent unauthorised vessels entering the 500m PSZ.	MC-3.1 Notice to Mariners published and PSZ is gazetted.
CM-04 Air pollution prevention certificate	EPS-4.1 Vessels and MODU comply with MARPOL 73/78 Annex VI, as applied in Australia under the Commonwealth <i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i> (Part IIID Prevention of air pollution), and Marine Order 97 (marine pollution prevention – air pollution) 2007, as required by vessel class: <ul style="list-style-type: none"> vessels and MODU vessels will have valid international air pollution prevention certificate where required. 	MC-4.1 MODU and vessels have valid international air pollution prevention certificate where required.
CM-05 Vessel fuel quality	EPS-5.1 Low sulphur fuel is used on vessels, in accordance with Marine Order 97.	MC-5.1 Records of fuel type for vessels show use of low sulphur fuel (in accordance with Marine Order 97).
CM-06 Monitoring of fuel usage and flaring volumes and reporting to the Australian Climate Change Regulator via NGER	EPS-6.1 Fuel usage and flaring volume are used to calculate atmospheric emissions which are reported annually to the Australian Climate Change Regulator via NGER.	MC-6.1 Records show atmospheric emissions are reported to the Australian Climate Change Regulator via NGER annually.
CM-07	EPS-7.2 Flaring will be conducted in accordance with a testing package with an efficient flare and will be designed to minimise potential impacts, including:	MC-7.2 Records demonstrate testing package includes:

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Control measure	Environmental performance standard	Measurement criteria
Use of a test package with an efficient flare design to minimise potential impacts.	<ul style="list-style-type: none"> prevention of the need for cold venting process controls requirement for flare watcher alarms and safety shutdown devices dual-redundancy ignition operational pilot light back-up equipment. 	<ul style="list-style-type: none"> flare watcher alarms and safety shutdown devices dual-redundancy ignition operational pilot light back-up equipment.
CM-08 Regulations and measures for interacting with fauna	EPS-8.1 EPBC Regulations 2000 – Part 8 for interacting with marine fauna are enforced during the activities, including Part 8 Division 8.1 (Regulation 8.05), which requires that: <ul style="list-style-type: none"> a vessel will not travel greater than 6 knots within 300m of a whale (caution zone) and not approach closer than 100m from a whale a vessel will not approach closer than 50m of a dolphin or 100m of a whale (with the exception of animals bow riding). 	MC-8.1 Conformance to EPBC Regulations 2000 – Part 8 is checked on receipt of marine fauna sighting datasheets.
	EPS-8.2 EPBC Regulations 2000 – Part 8 for interacting with marine fauna are enforced during the activities, including Part 8 Division 8.1 (Regulation 8.06) – Interacting with calves, which requires that: <ul style="list-style-type: none"> vessel will not approach closer than 300m to a calf (whale or dolphin) (the exclusion zone) then the vessel must be immediately stopped and must: <ul style="list-style-type: none"> 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. 	
	EPS-8.3 Helicopters will comply with EPBC Regulations 2000 – Part 8 Division 8.1 (Regulation 8.07), which requires that: <ul style="list-style-type: none"> helicopters shall not operate lower than 1650 feet or within a horizontal radius of 500m of a cetacean known to be present in the area, except for take-off and landing. 	
CM-09 Vessels and jack-up MODU comply with Marine Order 96 (Marine pollution prevention – sewage)	EPS-9.2 Vessels and MODU comply with Marine Order 96: Marine pollution prevention – sewage (as appropriate to vessel class), which requires: <ul style="list-style-type: none"> a valid International Sewage Pollution Prevention Certificate, as required by vessel class an ASMA-approved sewage treatment plant a sewage comminuting and disinfecting system a sewage holding tank sized appropriately to contain all generated waste (black and grey water) discharge of sewage which is not comminuted or disinfected will only occur at a distance of more than 12 nm from the nearest land discharge of sewage which is comminuted or disinfected using a certified approved sewage treatment plant and will only occur at a distance of more than 3 nm from the nearest land discharge of sewage will occur at a moderate rate while support vessel is proceeding (> 4 knots), to avoid discharges in environmentally sensitive areas. 	MC-9.1 Records demonstrate vessels have valid international sewage pollution prevention certificates.
CM-10 Vessels and jack-up MODU comply with Marine Order 95 (Marine pollution prevention – garbage)	EPS-10.1 Vessels and MODU comply with Marine Order 95 (Marine pollution prevention – garbage), which requires: <ul style="list-style-type: none"> putrescible waste will only be discharged to sea if comminuted to 25 mm or less and discharged en route when greater than 3 nm from the ‘territorial sea baseline’ if putrescible waste is not comminuted to 25 mm or less, it will be discharged greater than 12 nm from the territorial sea baseline while en route. 	MC-10.1 Records demonstrate vessels and MODU are compliant with Marine Order 95: Marine pollution prevention – garbage (as appropriate to vessel class).

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Control measure	Environmental performance standard	Measurement criteria
CM-11 Vessels comply with Marine Order 91 (Marine pollution prevention – oil)	EPS-11.1 Vessels and MODU comply with Marine Order 91 (Marine pollution prevention – oil) (as relevant to vessel class) requirements, which include mandatory measures for the processing of oily water prior to discharge including: <ul style="list-style-type: none"> • Machinery space bilge/oily water shall have IMO-approved oil filtering equipment (oil/water separator) with an on-line monitoring device to measure OIW content to be less than 15ppm prior to discharge. • IMO-approved oil filtering equipment shall also have an alarm and an automatic stopping device or be capable of recirculating in the event that OIW concentration exceeds 15ppm. • A deck drainage system shall be capable of controlling the content of discharges for areas of high risk of fuel, oil and grease or hazardous chemical contamination. • There shall be a waste oil storage tank available, to restrict oil discharges. In the event that machinery space bilge and deck drainage discharges cannot meet the oil content standard of <15ppm without dilution or be treated by an IMO approved oil/water separator, they will be contained on-board and disposed of onshore.	MC-11.1 Records demonstrate vessels are compliant with Marine Order 91: Marine pollution prevention – oil (as appropriate to vessel).
CM-12 Eliminate discharge of excess barite/bentonite and cement at the end of drilling by returning product to shore or passing the product to other operators	EPS-12.1 Excess cement is not discharged as a bulk product at the end of drilling, providing always that safety risks in handling the bulks offshore and onshore are managed to ALARP and are tolerable.	MC-12.1 Records show that cements have not been discharged as bulk products and have been dealt with by other means (e.g., passed to next operator). It is intended to either pass cement to the next Operator, or return to shore for disposal, unless safety risks in handling the bulks offshore and onshore are not able to be managed to a tolerable level as defined through a safety risk assessment process and evidenced formally within a safety risk assessment report.
	EPS-12.2 Excess bentonite or barite are not discharged as a bulk product at the end of drilling, providing always that safety risks in handling the bulks offshore and onshore are managed to ALARP and are tolerable.	MC-12.2 Records show that bentonite or barite have not been discharged as bulk products and have been dealt with by other means (e.g., passed to next operator). It is intended to either pass cement to the next Operator, or return to shore for disposal, unless safety risks in handling the bulks offshore and onshore are not able to be managed to a tolerable level as defined through a safety risk assessment process and evidenced formally within a safety risk assessment report.
CM-13 Chemical risk assessment process	EPS-13.1 Cement, clean-up fluids and WBM chemicals intended or likely to be discharged into the marine environment are approved before use in accordance with the chemical risk assessment process detailed in Section 3.12.	MC-13.1 ALARP assessment documentation shows chemicals requiring further assessment are ALARP and selected in accordance with the chemical assessment process detailed in Section 3.12.
CM-14 Well-cleanup management fluids	EPS-14.1 During a well-cleanup, fluids containing hydrocarbons must be: <ul style="list-style-type: none"> • flared with hydrocarbons, or • treated through a filtration system before discharge to sea at an oil in water concentration of <30ppm, or • stored in tanks on-board and shipped ashore for disposal. 	MC-14.1 Completed well-cleanup operational reports.
	EPS-14.2 Water filtration equipment will be: <ul style="list-style-type: none"> • designed to reduce hydrocarbon content to <30ppm • calibrated before use • monitored for hydrocarbon content to assess the performance of the filtration equipment. 	MC-14.2 Well-cleanup design reports.
CM-15 Solids control equipment	EPS-15.1 WBM cuttings returned to the MODU will be processed using SCE, allowing reuse of mud, where possible, before discharge.	MC-15.1

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Control measure	Environmental performance standard	Measurement criteria
		Records demonstrate operational SCE is in use during riser in-place drilling.
CM-16 Cuttings discharged below the water line	EPS-16.1 Where cuttings are discharged overboard, they must be discharged below the water line (approximately 10 m).	MC-16.1 Inspections and records verify cuttings discharge chute and line is below the water line.
CM-17 Quality control for barite and bentonite	EPS-17.1 Contaminant limit concentrations in barite and bentonite are: <ul style="list-style-type: none"> mercury (Hg) – 1mg/kg dry weight in stock barite cadmium (Cd) – 3mg/kg dry weight in stock barite. 	MC-17.1 Records show contaminant limit concentrations of: <ul style="list-style-type: none"> mercury (Hg) – 1mg/kg dry weight in stock barite cadmium (Cd) – 3mg/kg dry weight in stock barite.
CM-18 Hazardous and non-hazardous waste management processes	EPS-18.1 Vessels and MODU comply with measures outlined in Marine Order 95 (Marine pollution prevention – garbage) as required by vessel class: <ul style="list-style-type: none"> vessel(s) will have a Garbage Management Plan in place which outlines procedures for handling storing, processing and disposing of garbage. 	MC-18.1 Compliant Garbage Management Plan in place for vessels and MODU.
	EPS-18.2 A garbage record book shall be maintained with details of non-hazardous and hazardous waste volumes generated and transferred for onshore recycling or disposal.	MC-18.2 Garbage record book is maintained and available for the vessels and MODU.
	EPS-18.3 All hazardous and non-hazardous wastes generated at sea are retained on vessel/MODU and disposed of onshore by a licenced waste management contractor (excluding putrescible waste and sewage).	MC-18.3 Hazardous and non-hazardous wastes records maintained and available for the vessels and MODU.
	EPS-18.4 All personnel will be notified of the correct waste management procedures through the induction process.	MC-18.4 Waste management procedures included in induction material.
CM-19 Lifting Operations Standard (ENI-HSE-ST-007)	EPS-19.1 Lifting operations have been performed in accordance with Lifting Operations Standard (ENI-HSE-ST-007), including: <ul style="list-style-type: none"> competency of persons undertaking lift planning and preparation process for undertaking lifts. 	MC-19.1 Records show compliance with Lifting Operations Standard (ENI-HSE-ST-007).
CM-20 Implementation of an IMS risk assessment tools	EPS-20.1 MODU and vessels to be risk-assessed (e.g., the DPIRD vessel check tool or similar), demonstrating they are at 'low risk' of introducing invasive marine species. IMS management measures will be applied to reduce IMS risk to 'low risk'.	MC-20.1 Completed vessel check report demonstrating MODU and vessels are 'low risk' of IMS.
	EPS-20.2 Vessel check assessment has been reviewed or completed by a member of the Eni HSE Team.	MC-20.2 Records show vessel check assessment has been reviewed completed by member of the Eni HSE Team.
CM-21 Ballast water management	EPS-21.1 Compliance with Australian Ballast Water Management Requirements (as defined under the <i>Biosecurity Act 2015</i> , aligned with the International Convention for the Control and Management of Ships' Ballast Water and Sediments). This includes operators of all vessels answering biofouling questions on a pre-arrival report prior to entering Australia in accordance with the Biosecurity Amendment (Biofouling Management) Regulations 2021.	MC-21.1 Administrator-approved ballast water management plan on vessels. Completed ballast water record book or log.
CM-22 Biofouling management	EPS-22.1. Vessels and MODU have a Biofouling Management Plan and record book consistent with the International Maritime Organization 2011 Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species (IMO Biofouling Guidelines).	MC-22.1. Records show vessel Biofouling Management Plan and record book in place on MODU and vessels.
CM-23 On-board spill response kits	EPS-23.1 Spill response kits located in proximity to hydrocarbon storage/bunkering areas and appropriately stocked/replenished as required.	MC-23.1 Inspection report completed shows spill kits located in proximity to hydrocarbon storage/bunkering areas.
CM-24	EPS-24.1 SOPEP kept onboard MODU and vessels and contains plans in case of an oil spill to prevent spills reaching the marine environment, as appropriate to vessel class.	MC-24.1 Approved SOPEP available onboard MODU and vessels, as appropriate to vessel class.

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Control measure	Environmental performance standard	Measurement criteria
Vessel spill response plan (Shipboard Oil Pollution Emergency Plan).		
CM-25 Flare management	EPS-25.1 High efficiency 'clean' burner heads will be used during well flowback to ensure effective flaring of hydrocarbons.	MC-25.1 Well test design report.
	EPS-25.2 Oil burner pilots to remain ignited during a well flowback to reduce the risk of hydrocarbons being released to sea and air.	MC-25.2 Well test design report.
	EPS-25.3 Gas line pilots will be used and will remain ignited during a well flowback to reduce the risk of hydrocarbons being released to air.	MC-25.3 Well test design report.
	EPS-25.4 Oil burner monitored by a dedicated flare watcher during a well flowback to identify and communicate an unplanned flare drop-out.	MC-25.4 Incident report of flare drop-out or unplanned hydrocarbon release.
	EPS-25.5 In the event of a flare drop-out or hydrocarbon being observed on the sea surface, then liquid flaring, and if applicable the well flowback, shall cease and the event investigated and corrected before proceeding.	MC-25.5 Incident report of flare drop-out or unplanned hydrocarbon release.
	EPS-25.6 High efficiency 'clean' burner heads will be used during well flowback to ensure effective flaring of hydrocarbons.	MC-25.6 Well test design report.
CM-26 NOPSEMA accepted MODU Safety Case	EPS-26.1 MODU Safety Case includes control measures for well control that reduce the risk of an unplanned release of hydrocarbons.	MC-26.1. Acceptance letter from NOPSEMA demonstrates the Safety Case is accepted before drilling.
CM-27 NOPSEMA accepted Well Operations Management Plan	EPS-27.1 WOMP in place before drilling the development well includes control measures for well integrity that reduce the risk of an unplanned release of hydrocarbons, including: <ul style="list-style-type: none"> at least two isolation barriers are in place between the reservoir and the environment. 	MC-27.1 Acceptance letter from NOPSEMA demonstrates the WOMP and application to drill were accepted by NOPSEMA before the drilling activity commencing.
CM-28 NOPSEMA accepted OPEP	EPS-28.1. In the event of an oil spill to sea, the Blacktip OPEP requirements are implemented to mitigate environmental impacts.	MC-28.1. Completed incident documentation shows OPEP implemented as applicable.
CM-29 Blowout Preventer specification and function testing	EPS-29.1 BOP installed during relevant drilling operations and has specification and function testings undertaken in accordance with: <ul style="list-style-type: none"> Eni Well Control Manual STAP-P-1-MG-26524 Original Equipment Manufacturer Standards API Standard 53.	MC-29.1 Records demonstrate BOP and BOP control system specifications and function testing were in accordance with minimum standards for the expected drilling conditions.
CM-30 Relevant well site personnel hold International Well Control Forum certificates	EPS-30.1. Relevant well site personnel to hold valid International Well Control Forum certificates	MC-30.1 Records demonstrate that relevant well site personnel hold valid International Well Control Forum certificates
CM-31 Mutual Aid MoU for relief well drilling is in place	EPS-31.1 Mutual Aid MoU for relief well drilling is in place which allows for expedited use of drilling rig for relief well drilling.	MC-31.1 Records show Mutual Aid MoU for relief well drilling is in place.
CM-32 Eni Source Control Response Plan (ENI-WOP-PL-001)	EPS-32.1 Eni Source Control Response Plan (ENI-WOP-PL-001) and its addendum is in place and details the steps to expedite the drilling of a relief well, including: <ul style="list-style-type: none"> relief well design simulation of the dynamic kill high-level requirement for the rig and the equipment, volumes and the pumping pressures. 	MC-32.1 Source Control Response Plan and addendum detail: <ul style="list-style-type: none"> relief well design simulation of the dynamic kill high-level requirement for the rig and the equipment, volumes and the pumping pressures.
CM-33	EPS-33.1	MC-33.1

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Control measure	Environmental performance standard	Measurement criteria
Refuelling transfer procedures	Vessel/MODU contractor bunkering procedure implemented for all hydrocarbon vessel bunkering and helicopter refuelling activities includes the requirements for: <ul style="list-style-type: none"> a completed Permit to Work or Job Safety Analysis implemented for the hydrocarbon bunkering and refuelling operation visual monitoring of gauges, hoses, fittings and the sea surface during the operation hose checks before commencement. 	Records demonstrate refuelling undertaken in accordance with contractor bunkering procedures.
	EPS-33.2 Bunkering is completed in accordance with the following: <ul style="list-style-type: none"> All hoses that have a potential environmental risk after damage or failure shall be placed on a hose register that is linked to the MODU's preventative maintenance system. There shall be dry-break couplings and flotation on fuel hoses. There shall be an adequate number of appropriately stocked, located and maintained spill kits. All bulk transfer hoses shall be certified for integrity before use (in accordance with OEM recommendations). 	MC-33.2 Records confirm the MODU bunkering equipment complies with the management measures to prevent bunkering spills.
	EPS-33.3 Bunkering is not undertaken in adverse weather conditions and is addressed within a Job Safety Analysis.	MC-33.3 Records demonstrate consideration of daylight and weather conditions before undertaking bunkering and refuelling operations.
CM-34 Shallow draft vessels will be used to access remote shorelines	EPS-34.1 IAP process during a spill response refers to use of shallow draft vessel for accessing remote shorelines where grounding is a risk.	MC-34.1 IAP documentation.
CM-35 Vehicle access will be limited or restricted on dunes, turtle nesting beaches and in mangroves	EPS-35.1 IAP process during a spill response refers to limiting or restricting vehicle access on dunes, turtle nesting beaches and in mangroves.	MC-35.1 IAP documentation.
CM-36 Removal of vegetation will be limited to moderately or heavily oiled vegetation	EPS-36.1 IAP process during a spill response refers only to removing vegetation of moderate or heavy oiling.	MC-36.1 IAP documentation.

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10 IMPLEMENTATION STRATEGY

The purpose of the implementation strategy section is to manage the activities and their associated environmental risks to ALARP and ensure environmental performance is monitored. OPGGS(E) Regulation 22(1) requires that the EP contain an implementation strategy. To meet this Regulation, this section:

- describes the environmental management system for the activity, including specific measures to be used to ensure that, for the duration of the activity:
 - the environmental impacts and risks of the activity continue to be identified and reduced to a level that is as ALARP
 - control measures detailed in the environment plan are effective in reducing the environmental impacts and risks of the activity to as low as reasonably practicable and an acceptable level
 - environmental performance outcomes and standards set out in the environment plan are being met. (Regulation 22[2])
- establishes a clear chain of command and sets out the roles and responsibilities of personnel responsible for implementing, managing and reviewing the EP (Regulation 22[3])
- includes measures to ensure each employee or contractor working on, or in connection with, the activity is aware of the employee's or contractor's responsibilities in relation to the EP, including during emergencies or potential emergencies, and has the appropriate competencies and training (Regulation 22[4])
- provides for sufficient monitoring, recording, audit, management of non-conformance and review of the titleholder's environmental performance and the implementation strategy to ensure the EPOs and EPSs in the EP are being met (Regulation 22[5])
- provides for sufficient monitoring of, and maintaining a quantitative record of, emissions and discharges, whether occurring during normal operations or otherwise, such that the record can be used to assess whether the EPOs and EPSs in the EP are being met (Regulation 22[6])
- states when the titleholder will report to NOPSEMA in relation to the titleholder's environmental performance for the activity; the interval between reports must not be more than 12 months (Regulation 22[7])
- includes a process for maintaining an OPEP (Regulation 22[8]).


This section presents the implementation strategy for the Blacktip drilling activities.

10.1 Systems, Practices and Procedures

10.1.1 Health, Safety and Environment Management System Overview

Eni's management of HSE matters is arranged hierarchically in three distinct levels, being:

1. Corporate-level Management System (Section 10.1.2)

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2. Regional (Eni Australia)-level HSE Integrated Management System (HSE IMS) (Section 10.1.3)
3. Facilities Management Systems.

Within Eni Australia, HSE management is delivered at the regional and asset level through the Eni HSE IMS, which is the means by which all HSE hazards and risks are controlled. The HSE IMS refers to the totality of Eni Australia’s management systems in terms of:

- the concepts, policies, strategies, HSE goals, processes, procedures and work instructions that comprise the formal content of the HSE IMS
- the organisational structures, communication systems, safety-related data, roles and responsibilities, competencies and training needed by the personnel
- the physical elements that are critical to safety (equipment, structures and engineered systems), including the codes and standards used to design and construct them.

10.1.2 Eni Corporate Management System

Eni Australia adopts the guidelines provided by its corporate parent, Eni Upstream, which issued a Divisional Directive for development of a Management System Guideline – HSE (MSG-HSE-ENI-SPA-ENG). Five main Management System elements and 18 sub-elements are shown in Figure 10.1 and incorporated into the Eni Australia HSE IMS.

Elements are largely based on the structure of the ISO 14001 and ISO 45001 series of standards and therefore provide a consistent and recognisable platform for managing HSE, while also ensuring the intent of the principle of continuous improvement is followed.

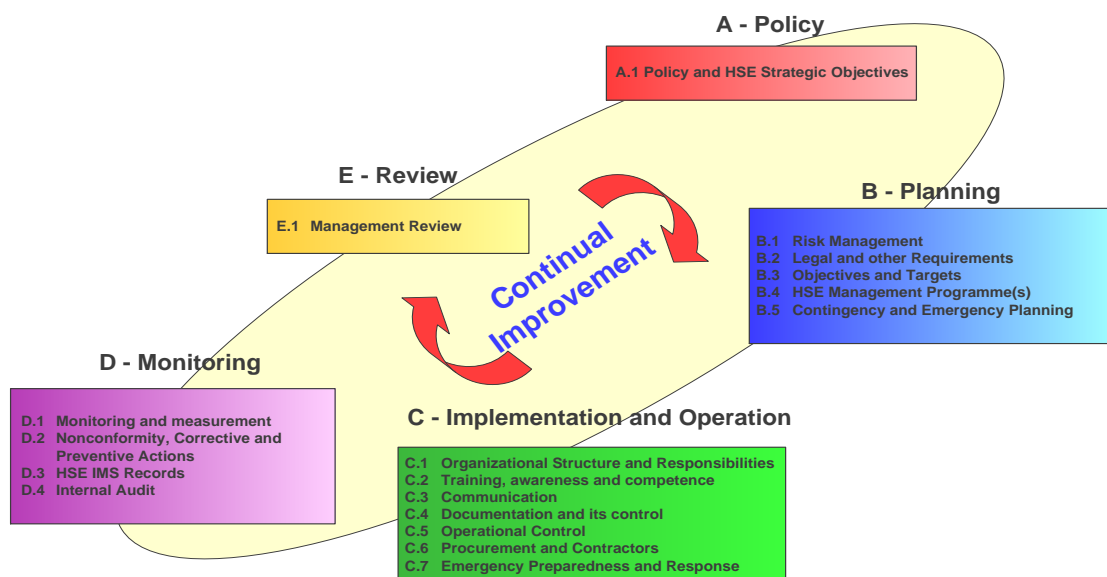



Figure 10.1: Eni Management System elements

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10.1.3 Regional Eni Australia Health, Safety and Environment Integrated Management System

The Eni Australia HSE IMS, which covers Blacktip drilling activities, has been certified against the standards of:

- ISO 14001: Environmental Management System
- ISO 45001: Occupational Health and Safety Management.

Audits are performed to verify conformance with these standards and the Eni Upstream Corporate Directive.

The HSE Integrated Management System Framework Document (ENI-HSE-IN-002) serves as the key reference for Eni Australia's HSE IMS and is an information source for Eni employees and contractors.


The HSE Integrated Management System Framework Document (ENI-HSE-IN-002) provides an overview of the strategies that are used to manage HSE aspects of Eni Australia's operations, including emergency response, risk and security, and ensure their continual improvement in line with established objectives and targets. This document also describes the core elements of the HSE IMS and their interaction with related documentation.

The HSE Integrated Management System Framework Document (ENI-HSE-IN-002) sets out functional requirements for HSE management. Eni Australia has developed a set of supporting documents that provide standards, processes, guidelines and criteria and information by which the functional requirements can be met. The documents are generally classified as information, standards, procedures or specification documents.

The HSE standards cover a broad range of high-risk activities and outline Eni Australia's minimum requirements and expectations across its operations. The HSE standards complement the Eni Australia HSE Golden Rules and are based on worldwide IOGP and company best practices.

The HSE standards apply to all personnel working on Eni sites, whether they are an employee, contractor or visitor. The standards apply to activities where Eni has direct operational control but also apply to activities where Eni has a prevailing influence over the performance of its contractors and suppliers.

At the apex of the HSE IMS is Eni's HSE Statement (refer Appendix D), which is approved by the Managing Director and provides a public statement of Eni's commitment to the environment and improving environmental performance.

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10.2 Roles and Responsibilities

Table 10.1 summarises key roles and responsibilities of Eni personnel and contractors for implementing the Blacktip drilling activities.


Operational roles and responsibilities are maintained for Blacktip production operations, and are described in the Blacktip Operations EP (000036_DV_PR.HSE.0677.000).

Table 10.1: Key roles and responsibilities for health, safety, and environment management for the Blacktip drilling activities

Role	Responsibilities
Onshore personnel	
Eni Well Operations Manager	<p>Reviewing this EP and confirming all environmental risks have been identified, mitigation strategies are effective and will be undertaken during field management and field management and plug and abandonment activities, including emergencies or potential emergencies.</p> <p>Ensuring:</p> <ul style="list-style-type: none"> • compliance with all environmental regulations and the EP • the requirements of the EP are communicated to third-party contractors • all personnel are inducted and are aware of their environmental responsibilities • environmental audits are undertaken on project vessels to verify compliance with the EP • all equipment is maintained and in an operable condition • actions are tracked in an action register, implemented and closed out, including corrective actions identified during audits • waste is managed on all vessels according to this EP. <p>Reporting all environmental incidents to the Eni Operations Manager, HSE & Corporate Social Responsibility Manager and IMT Leader.</p> <p>Notifying NOPSEMA of all activities ten days before commencing the activity and ten days after completing the activity.</p> <p>Reporting to NOPSEMA any environmental incident (as in, reporting 'reportable incidents' and 'recordable incidents') (Section 10.8.2).</p>
Eni Well Operations Superintendent	<p>Ongoing communications with Offshore Installation Manager (OIM).</p> <p>Reviewing this EP and confirming all environmental risks have been identified, mitigation strategies are effective and will be undertaken during field management and field management and plug and abandonment activities, including emergencies or potential emergencies.</p> <p>Ensuring compliance with all environmental regulations and the EP.</p> <p>Reporting all environmental incidents to the Eni Drilling Manager, HSE Manager and IMT Leader.</p>

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Role	Responsibilities
HSEQ Manager (office-based)	<p>Reviewing this EP and confirming all environmental risks have been identified, mitigation strategies are effective and will be undertaken during activities, including emergencies or potential emergencies.</p> <p>Providing and maintaining effective emergency response arrangements for project activities where there is potential environmental risk.</p> <p>Performing incident investigations.</p> <p>Submitting annual environmental compliance report to NOPSEMA.</p>
Senior Environmental Advisor (office-based)	<p>Reviewing HSE Management Plans for acceptability and ensuring compliance with this EP.</p> <p>Reporting all incidents to NOPSEMA in accordance with Section 10.8.2.</p> <p>Coordinating and reviewing environmental audits to ensure compliance with the agreed EPOs.</p> <p>Providing advice in the event of an oil spill or other environmental incident.</p>
HSE Assurance Advisor	NOPSEMA monthly environment reporting of 'recordable incidents'.
Eni IMT Leader	<p>Directing the Eni response in the event of an incident.</p> <p>Notifying NOPSEMA of the details of reportable incidents and providing updates on the status of the incident</p> <p>Notifying AMSA in the case of vessel incidents.</p> <p>Communicating with IMT and Crisis Management Team (CMT), government, stakeholders, and media in the event of an incident.</p>
Eni IMT Duty Officer	<p>Acting as the first point of contact in an incident.</p> <p>Notifying the Eni IMT Leader of the incident.</p>
Offshore personnel	
Eni Offshore Representative	<p>Reviewing this EP and confirming all environmental risks have been identified and mitigation strategies are effective and will be undertaken during activities, including emergencies or potential emergencies.</p> <p>Notifying the Eni Operations Manager, HSEQ Manager and Well Operations Manager, should additional environmental risks arise during the activities that have not been identified in this EP.</p> <p>Ensuring all offshore personnel comply with the health, safety and environmental requirements.</p> <p>Ensuring all personnel receive the Eni environmental induction before commencing drilling activities.</p> <p>Providing a daily log of activities and reporting reportable and recordable incidents to the Well Operations Manager.</p> <p>In the event of an emergency, communicating between the support vessel(s) and the Eni IMT in Perth.</p> <p>Implementing and complying with all operational plans, including this EP.</p> <p>Ensuring all required plans, audits and reviews are undertaken in accordance with the regulatory requirements and as required by this EP.</p> <p>Implementing and closing out actions in an action register.</p>

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Role	Responsibilities
	<p>Ensuring all monitoring is undertaken in accordance with this EP (Section 10.5) and data is made available to the Well Operations Manager.</p> <p>Ensuring adherence to management and mitigation measures outlined to minimise interaction with cetaceans and other marine fauna.</p> <p>Ensuring all whale interaction reports are submitted to the Environment Advisor.</p> <p>Notifying NOPSEMA of the details of reportable incidents and providing updates about the status of the incident (Section 10.8.2).</p> <p>Investigating hydrocarbon spills, should they occur.</p>
MODU OIM/Vessel Master	<p>Ensuring full compliance with all applicable navigational safety standards and regulations.</p> <p>Conducting emergency drills.</p> <p>Supervising MODU/vessel crew to ensure they are fit for duty and undertaking work only within their area of qualification and training.</p> <p>Monitoring, reporting, and taking appropriate action to remedy any MODU/vessel or equipment defects that may impact on safety and environmental performance of the vessel.</p> <p>Maintaining logs with respect to MARPOL 73/78 regulations.</p> <p>Ensuring all crew are appropriately qualified, trained and equipped for their roles on the MODU/vessel.</p> <p>Ensuring MODU/vessel activities comply with the requirements of this EP.</p> <p>Notifying all MODU/vessel-related incidents immediately to the Eni Site Representative.</p>
MODU/vessel operators, technicians and crew	<p>Applying operating procedures in letter and in spirit.</p> <p>Following good housekeeping procedures and work practices.</p> <p>Encouraging improvement in environmental performance, wherever possible.</p> <p>Immediately reporting environmental incidents or spillage of hydrocarbons or chemicals to the MODU OIM/Vessel Master.</p>

10.3 Training

10.3.1 General Arrangements

All staff and contractors working on the Blacktip drilling activities must undertake an induction. The induction programs include:

- Company Induction:
 - Eni Golden Rules
 - Eni HSE IMS
 - Substance Abuse
- Blacktip Inductions:
 - Site Induction
 - Eni Environment Plan Awareness/Legislation:

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- environmental regulatory requirements
- marine mammal interaction – requirement to record and report sightings of whales and dolphins
- requirements for waste, segregation, labelling, handling, and storage
- housekeeping and spill prevention
- spill preparedness and response
- environmental incident reporting
- requirements for recording waste movements and transfers
- HSE Standards
- Job Hazard Analysis
- Blacktip Operations Emergency Response
- Cultural Awareness Induction.

Training is provided to Eni employees and contractors as appropriate in order to ensure that individuals have the skills, knowledge and competencies to fulfil their roles.

The Eni approach to training and development is managed under the Training and Development Procedure (ENI-HRO-PR-020), which describes the mechanisms by which training, and competency are managed and outlines the process by which operations staff are trained.

Eni uses a number of training matrices for the Blacktip facilities which define the competency requirements for the roles at the Blacktip facilities, specifically:


- Blacktip YGP Emergency Response Training Matrix (ENI-HRO-ST-001)
- Blacktip YGP Induction & HSE Training Matrix (ENI-HRO-ST-002)
- Blacktip YGP Technical Training Matrix (ENI-HRO-ST-003).

For each Blacktip operations position, the training matrices indicate the minimum training requirements. An employee's training needs are based upon the matrix and any other training identified by the Line Manager, and are recorded within the individual's Personal Development Plan (which outlines training needs on an annual basis).

The training process has been established to ensure training activities are interactive, effective, competency-based and auditable, in terms of frequency of sessions and attendance of individuals.

HSE training, based on roles and responsibilities, includes:

- dangerous goods awareness
- management of change
- Safety Case awareness and legislation
- hazard identification and risk management
- manual handling
- HSE Management System and auditing

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- root cause analysis incident investigation
- HSE for supervisors.

OPEP training requirements are outlined in the Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000).

10.3.2 Drilling and Workover-Specific Arrangements

All personnel will be required to undertake an environmental induction upon boarding the MODU undertaking drilling activities. The environmental induction will instruct personnel on the issues and management actions identified in this EP as well as their roles and responsibilities with regards to environmental performance. The induction will cover aspects such as:

- environmental regulatory requirements of the drilling activity
- marine mammal interaction:
 - requirement to record and report sightings of whales and dolphins
- requirements for waste, segregation, labelling, handling and storage
- requirements for recording waste movements and transfers in garbage record book
- housekeeping and spill prevention:
 - requirements to store chemicals, oils and wastes in designated area
 - location of spill kits
- spill preparedness and response:
 - alerting procedure and immediate spill response actions
- environmental incident reporting:
 - requirements for reporting reportable and recordable incidents.


10.4 Competency

10.4.1 Contractor Selection and Management

All Eni contractors must have satisfied the general HSE prerequisites in the contractor selection process in accordance with the Contractor HSE Management Procedure (ENI-HSE-PR-008) and Contractor HSE Specification and Requirements (ENI-HSE-SP-002).

In addition to this, Eni Australia ensures contractor personnel receive appropriate training on their HSE responsibilities in connection with Blacktip drilling activities. This may be achieved in a number of ways; in particular all workforce, including contractors, attend HSE Forums which contain a range of HSE awareness presentations and training.

Eni will agree and approve the competencies of the contractor's technicians before they start work in relation to the Blacktip drilling activities. All subcontractors and specialist services providers engaged under the maintenance services contract will similarly be approved by Eni.

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The Eni contracting process for the contractor vessel selection and management, and the appropriate operators for selected operations associated with the Blacktip operations, requires the development of a project-specific vessel scope of work, that is consistent with Logistic Technical Requirements for Supporting Project Activities (LOGIS-ST-3933-1-2019) and a corresponding Appendix C: Vessel Technical Specifications Requirements. These are developed in accordance with Eni Performance Standard P43 Marine Vessels (00710200PGRT06143) and Eni Marine Transportation Manual [84], out of which come the requirements informing the vessel on-hire inspection process.

The Blacktip Marine Procedure (000036_DV_PR.DPM.1045.000_02) includes project-specific criteria that shall be considered and assessed when contracting vessels.

Each vessel must be audited to comply with local and international standards and regulations and Eni Marine Transportation Manual (LOGIS-DG-4166-0-2019). A complete set of vessel documents will be requested from the operator and once received, Eni's Marine Advisor will review to ensure all documents comply. This may include specific requirements for the vessel scope of work:

- Vessels must have a current (within 12 months of issue) Offshore Vessel Inspection Database (Oil Companies International Marine Forum), Common Marine Inspection Document (International Marine Contractors Association), or Eni marine inspection. If the vessel holds neither of the previous documents, an inspection request will be generated.
- All information and advice will then be on-forwarded to Eni Headquarters (LOGIS) for final technical approval. Vessels require technical approval from headquarters if the vessel is going to carry passengers who are Eni employees or direct contractors.

Existing vessels, which Eni has listed as recently engaged, are required to hold a current audit from within the last 12 months and periodically renewed on an annual basis.


10.4.2 Verification of Competence

Personnel qualification and training records will be sampled before and during an activity. Such checks will be performed during the procurement process, inductions, crew change, and operational inspections and audits (refer Section 10.6).

10.5 Monitoring

For the Blacktip drilling activities, information is collected for monitoring compliance to the EPOs, CMs, EPSs and MC in this EP (refer Section 9). At a minimum, evidence identified in the MC in Table 9.2 will be collected and used to demonstrate the EPOs and EPSs are met.

Discharges to the marine environment associated with vessel and MODU activities will be recorded and controlled in accordance with requirements under relevant Marine Orders and MARPOL requirements. Contractors will maintain records so emissions and discharges can be determined or estimated. Such records will be maintained for a period of five years. Contractors are required to make these records available upon request.

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To monitor environmental performance during vessel or MODU based activities, Eni and its contractors may use:

- daily vessel or drilling reports during relevant offshore activities
- monthly drilling reports, which include the number of toolboxes and training undertaken, waste, discharges and cetacean sightings
- reports from monitoring as detailed in Table 10.2
- contractor inspections and audits
- review of waste management and recycling records
- audits against the management system, EP requirements or other requirements (Section 10.6).

Table 10.2: Environmental monitoring parameters

Monitoring criteria	Threshold limit	Monitoring method
Marine fauna sightings	N/A	Opportunistic visual observations
Volume of solid waste	No prescriptive limit but principle of ALARP to be applied	Calculated based on capacity of storage containers transferred for onshore disposal
Volume of sewage, greywater, and mass of food scraps discharged overboard	Discharged in accordance with Marine Order requirements	Estimated based on persons on board, storage capacity and dimensions of discharge point
OIW concentration of treated wastewater	Discharged in accordance with Marine Order requirements ($\leq 15\text{mg/L}$)	In compliance with vessel Marine Order requirements


10.5.1 Waste Monitoring

Waste management records shall include:

- waste manifests for all wastes transferred to shore
- waste type and volumes disposed of to landfill
- waste type and volumes recycled
- estimate of macerated food and sewage waste discharged offshore.

All waste transported from offshore will be properly manifested. Waste manifests will include information about:

- manifest identification number
- quantity (m^3/kg)
- waste description
- waste container(s) number and description
- date of shipment
- final destination description (such as incineration, landfill)
- generator data

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- transporter(s) data and waste acceptance declaration
- receiver data and waste acceptance declaration
- dangerous goods class and United Nations number (for environmentally hazardous waste)
- special handling instructions
- any other information required by the waste contractor.

10.6 Auditing and Inspection

Compliance verification and auditing processes for the management of HSE is performed on a number of levels.

At the Eni Australia HSE IMS level, there is a management system element dedicated to the audit and review process and an HSE Auditing Procedure (ENI-HSE-PR-005). This requires that the management system is formally reviewed to ensure ongoing effectiveness and continual HSE improvement. It also ensures critical HSE processes are in place – for example, the HSE auditing of contractors and subcontractors – and annual audit of the permit to work system.

At a contractor management level, the HSE performance of the contractors is assessed as part of the contractual performance review process. Eni also reserves the right to undertake HSE audits on contractors and their subcontractors.

At an activity level, HSE is monitored as part of the execution of discrete work scopes; for example, pipeline inspection, maintenance and repair. For these activities, a project-specific plan is prepared that will identify HSE audits, such as pre-mobilisation and during activity execution.


Environmental audits and inspections aim to:

- identify potential new, or changes to existing, environmental impacts and risk, and methods for reducing those to ALARP
- confirm mitigation measures detailed in this EP are effectively reducing environmental impacts and risk, that mitigation measures proposed are practicable and provide appropriate information to verify compliance
- confirm compliance with the EPOs, CMs and EPSs detailed in this EP.

Further details regarding specific audits are outlined in Sections 10.6.1 to 10.6.2.

10.6.1 Vessel Audits

Before chartering or subcontracting new vessels, technical evaluation will be undertaken to verify compliance with applicable international rules, regulations and conventions, State and Commonwealth requirements and Eni standards and best practice. New vessels (not previously used by Eni Australia) will be subject to an audit of the complete set of vessel documents and an Offshore Vessel Inspection Database or International Marine Contractors Association inspection will be requested. Vessels used regularly are required to have a vessel audit completed every 12 months.

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Internal auditing is also undertaken for vessels to collect evidence for and assure compliance with EP commitments. Compliance documentation and evidence is collected on an ongoing basis.


Before drilling, the proposed MODU will also be inspected to verify suitability and compliance with Eni requirements.

10.6.2 Environmental Inspections

An environment inspection will be conducted during or before the drilling activities, to ensure the requirements of this EP are being met. Table 9.2 will be used as a basis for the inspection checklist.

The environmental inspection will be conducted by the Offshore HSE Representative or Environmental Advisor and may include verification of:

- Bunkering and transfers between vessels and MODU and offshore supporting vessels
- environment containment, including chemical storage, spill response equipment and housekeeping
- general MODU environment risks, including waste management, drilling fluids oil/water separation and inspection of subsea and moonpool areas
- other relevant EPSs applicable during the activity.

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10.7 Non-Conformance, Corrective and Preventative Actions

Non-conformances may be identified from the audits (refer Section 10.6). Close-outs of non-conformances are recorded and tracked in an action tracking database in accordance with the Eni Australia Corrective Action Tracking and Non-conformance Reporting Procedure (ENI-HSE-PR-015). Root cause analysis of incidents is performed to determine the cause and to aid identification of corrective actions, in accordance with the Eni Australia Incident Investigation Procedure (ENI-HSE-PR-025).

Corrective and preventative actions are raised for all identified hazards and incidents according to Eni Australia Procedure Hazard and Incident Reporting (ENI-HSE-PR-003) and are registered and maintained within the Eni SharePoint system.

The Eni HSEQ Manager ensures all corrective and preventative actions are tracked and appropriate reminders are communicated to relevant Department Managers.

Breaches of this EP by Eni's vendors can be managed through issuing a formal Non-Conformance Report, in accordance with Procedure Vendor Management (ENI-PRC-PR-001), which links with legal management of the contract. The procedure provides for vendor qualification, evaluation, due diligence, feedback and serious non-performance management. This would apply to any serious or repeated breaches of Eni procedures that could cause environmental harm.

10.8 External Reporting

10.8.1 Routine Reporting

Routine regulatory reporting requirements for the Blacktip drilling activities are summarised in Table 10.3. The requirements include that Eni develops and submits an end-of-activity EP Performance Report to NOPSEMA for the drilling.




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Table 10.3: Routine external reporting requirements


Requirements	Recipient	Timing	Content
Before the Activity			
AHO notification	AHO	Email AHO four weeks before the confirmed activity start date.	Written. Notify AHO of the activity commencement date and duration to enable a Notice to Mariners to be issued.
AMSA (RCC) notification	AMSA	24 to 48 hours before activities commence.	Written. Through rccaus@amsa.gov.au (Phone: 1800 641 792 or +61 2 6230 6811) for promulgation of radio-navigation warnings.
NOPSEMA: advise about the start date of the activity	NOPSEMA	Email NOPSEMA at least ten days before the activity starting.	Complete OPGGS(E) Regulation 54 Start or End of Activity Notification Form before petroleum activity.
Defence notification	Defence	Minimum of five weeks before the confirmed activity start date.	Notification will be provided to offshore.petroleum@defence.gov.au.
DEMIRS notification	WA DEMIRS	Prior to activities commencing.	Notify DEMIRS of the start date of activities, (petroleum.environment@dmirs.wa.gov.au).
Notification to relevant persons as requested	AMOSC EOG Resources Melbana Energy CCWA	Prior to activities commencing.	Details on file.
During the Activity			
NOPSEMA: advise about the end date of the activity	NOPSEMA	Email NOPSEMA within ten days of the end of the activity.	Written. In accordance with Regulation 54 of the OPGGS(E) Regulations (submissions@nopsema.gov.au).
DEMIRS notification	WA DEMIRS	Notify DEMIRS of the end date/cessation of the activities.	Notify DEMIRS of the end-date/cessation of activities (petroleum.environment@dmirs.wa.gov.au).

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Requirements	Recipient	Timing	Content
AMSA: advise about any oil pollution incidents in Commonwealth waters	AMSA	Within two hours of any oil pollution incidents in Commonwealth waters.	<p>In accordance with the <i>Navigation Act 2012</i>, any oil pollution incidents in Commonwealth waters will be reported by the Vessel Master to AMSA within two hours via the national emergency notification contacts and a written report within 24 hours of the request by AMSA.</p> <p>The national 24-hour emergency notification contact details are:</p> <p style="text-align: center;">Freecall: 1800 641 792 Fax: (02) 6230 6868 Email: mdo@amsa.gov.au.</p>
<p>Department of Transport (WA DoT) reporting</p> <p><i>All actual or impending marine oil pollution incidents that are in, or may impact, State waters resulting from an offshore petroleum activity</i></p>	Oil Spill Response Coordination	Within two hours.	<p>Oral.</p> <p>Notification of actual or impending spillage, release or escape of oil or an oily mixture that is capable of causing loss of life, injury to a person or damage to the health of a person, property or the environment.</p> <p>All oil pollution incidents in WA State waters will be reported by the Vessel Master to the Oil Spill Response Coordination Unit within DoT as soon as practicable (within two hours of spill occurring) via the 24-hour reporting number (08) 9480 9924. The Duty Officer will then advise whether the following forms are required to be submitted:</p> <ul style="list-style-type: none"> • Marine Pollution Form (POLREP); http://www.transport.wa.gov.au/mediaFiles/marine/MAC-F-PollutionReport.pdf • Marine Pollution Situation Report: http://www.transport.wa.gov.au/mediaFiles/marine/MAC-F-SituationReport.pdf.

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Requirements	Recipient	Timing	Content
Director of National Parks reporting <i>Notification of the event of oil pollution within a marine park or where an oil spill response action must be taken within a marine park; or if there are any changes to intended operations (requested through consultation)</i>	DNP	So far as reasonably practicable before writing response action.	<p>Oral and written.</p> <p>DNP should be made aware of oil and gas pollution incidences which occur within 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 on 0419 293 465. The notification should include:</p> <ul style="list-style-type: none"> • titleholder details • time and location of the incident (including name of marine park likely to be affected) • proposed response arrangements as per the OPEP (such as dispersant, containment) • confirmation of providing access to relevant monitoring and evaluation reports when available • contact details for the response coordinator. <p>Note DNP may request daily or weekly Situation Reports, depending on the scale and severity of the pollution incident.</p>
DPIRD reporting <i>If marine pests or disease are suspected, this must be reported to DPIRD</i>	DPIRD	Within 24 hours.	Notification (written) of any suspected marine pests or diseases, including any organism listed in the Western Australian Prevention List for Introduced Marine Pests and any other non-endemic organism that demonstrates invasive characteristics.
DCCEEW reporting <i>Any harm or mortality to EPBC Act listed threatened marine fauna</i>	DCCEEW	Within seven days to EPBC.permits@environment.gov.au.	Notification (written) of any harm or mortality to an EPBC-listed species of marine fauna, whether attributable to the activity or not.

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Requirements	Recipient	Timing	Content
DBCA reporting <i>Any harm or mortality to fauna listed as threatened under the WA Biodiversity Conservation Act 2016</i>	DBCA	Fauna report submitted within seven days to fauna@dbca.wa.gov.au.	Notification of any harm or mortality to fauna listed as a threatened species under the WA Biodiversity Conservation Act 2016 as a result of activities.
DBCA reporting <i>In the event of a hydrocarbon spill that may result in imminent or actual impacts on DBCA interests – i.e. wildlife (see above) or State reserves</i>	DBCA	As soon as practicable.	In the event of a hydrocarbon spill, that may result in imminent or actual impacts on DBCA interests, notification should be provided to DBCA's Kimberley Regional office on (08) 9195 5500 in the first instance, as soon as practicable. The region may also be contacted via email, at broome@dbca.wa.gov.au.
Australian Marine Mammal Centre reporting <i>Any ship strike incident with cetaceans will also be reported to the National Ship Strike Database</i>	DCCEEW	As soon as practicable.	Ship strike report provided to the Australian Marine Mammal Centre: https://data.marinemammals.gov.au/report/shipstrike .
NOPSEMA reportable incident	Refer Section 10.8.2.		
NOPSEMA recordable incident	Refer Section 10.8.2.		
After the Activity			
NOPSEMA: end-of-activity Performance Report	EP	NOPSEMA	Submit to NOPSEMA within three months of submission of Regulation 54 end-of-activity notifications to NOPSEMA. For example, three months of activity completion. This reports compliance against each of the performance outcomes and standards as outlined in Section 10 of this EP and: <ul style="list-style-type: none"> • reportable and reportable incidents, investigation details, corrective actions determined and actioned • monitoring records • inspection and audit outcomes • summary of the activity operations conducted.

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Requirements	Recipient	Timing	Content
			<p>The total amount of waste disposed will be included in the environmental performance report (details about waste records are included in Section 10.5.1).</p> <p>EP ends when titleholder notifies completion, and the regulator accepts the notification.</p>
NOPSEMA: end-of-activity notification	NOPSEMA	Within ten days after finishing the activities covered by this EP.	<p>Written.</p> <p>NOPSEMA must be notified that the activity is completed.</p> <p>Complete OPGGS(E) Regulation 54 Start or End of Activity Notification Form.</p>
DCCEEW: marine fauna observation data	DCCEEW	Submit to DCCEEW within three months of activity completion.	Provide marine fauna observation data to DCCEEW through its online Cetacean Sightings Application.
National Pollutant Inventory Report	National Pollution Inventory	Annual, by 30 September each year.	Summary of the emissions to land, air and water, including those from the facility. Reporting period 1 July to 30 June each year.
National Greenhouse and Energy Reporting	Clean Energy Regulator	Annual, by 31 October each year.	<p>Summary of energy use and GHG emissions, including those from the facility. Reporting period is 1 July to 30 June each year.</p> <p>NGER (Safeguard Mechanism) Rule 2015 is used to measure, report and manage the relevant production operations emissions in compliance with the requirements set by the Clean Energy Regulator.</p>

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10.8.2 Incident Reporting (Reportable and Recordable)

10.8.3 Reportable Incidents

Environmental recordable and reportable incidents will be reported to NOPSEMA as required, in accordance with Table 10.4. Under OPGGS(E) Regulation 48, NOPSEMA must be notified of any reportable incidents. 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.

For the purposes of this activity, in accordance with OPGGS(E) Regulations:

- a recordable incident for an activity means a breach of an EPO or EPS, in the EP that applies to the activity, that is not a reportable incident
- a reportable incident for an activity means an incident relating to the activity that has caused, or has the potential to cause, moderate to significant environmental damage.

For the Blacktip drilling activities, a reportable incident includes:

- oil spills of more than 80 L in Commonwealth waters
- an incident that has caused or has the potential to cause environmental damage with a consequence level of moderate or higher in accordance with the Eni risk assessment process (refer Section 6.1). This includes:
 - Introduction of IMS (Section 8.3)
 - Loss of Containment from Well Blowout (Section 8.6).

In addition:

- any injury or death of whales, dolphins or turtles related to the activity (such as vessel strike) must be reported immediately to DCCEEW, as these species are protected under the EPBC Act
- an incident relating to the activity that has caused death or injury to EPBC Threatened, Migratory or local fauna will be treated as a reportable incident
- Defence will be made aware of any high-velocity exhaust gas plumes or burn-offs that could impact the safety of flights.



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Table 10.4: Reportable Incident reporting requirements

Requirement/required information	Timing	Type	Recipient
<p>The oral notification must contain:</p> <ul style="list-style-type: none"> • all material facts and circumstances concerning the reportable incident known or that by reasonable search or enquiry could be found out • any action taken to avoid or mitigate any adverse environmental impacts of the reportable incident • 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 two 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.	Oral	NOPSEMA
A written record of the oral notification must be submitted. The written record is not required to include anything that was not included in the oral notification.	As soon as practicable after the oral notification.	Written	NOPSEMA NOPTA
<p>A written report must contain:</p> <ul style="list-style-type: none"> • all material facts and circumstances concerning the reportable incident known or that by reasonable search or enquiry could be found out • any action taken to avoid or mitigate any adverse environmental impacts of the reportable incident • the corrective action that has been taken, or is proposed to be taken, to stop, control or remedy the reportable incident • the action that has been taken, or is proposed to be taken, to prevent a similar incident occurring in the future. <p>Consider reporting using NOPSEMA's Report of an Accident, Dangerous Occurrence or Environmental Incident Form.</p>	<p>Must be submitted as soon as practicable, and in any case not later than three days after the first occurrence of the reportable incident, unless NOPSEMA specifies otherwise.</p> <p>Same report to be submitted to NOPTA and DEMIRS within seven days after giving the written report to NOPSEMA.</p>	Written	NOPSEMA NOPTA

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10.8.4 Recordable Incidents

In accordance with OPGGS(E) Regulation 5, a 'recordable incident' for an operator of an activity is 'a breach of an EPO or EPS that applies to the activity and is not a reportable incident'.

Recordable incidents will be reported to the Regulatory Authority as per the OPGGS(E) Regulations (as in, monthly report of recordable incidents sent by the 15th of the following month), including the submission of 'nil' reports if no environmental incidents have occurred.

10.9 Internal Reporting

All environmental incidents, deviations from this EP, or events that do not meet the EPOs of the EP will be recorded and reported to Eni, using the Eni Procedure Hazard and Incident Reporting and Investigation (ENI-HSE-PR-003). This includes entering the incident into the incident tracking database, accessible by contractor supervisors and Eni personnel.


Some examples of environmental incidents that need to be reported to Eni include:

- the uncontrollable escape or ignition of petroleum or any other flammable or combustible material causing a potentially hazardous situation
- spills of hydrocarbons, hydraulic fluids or any other chemicals, of any volume
- unplanned releases of gas
- overboard disposal of solid waste (accidental or intentional)
- loss of equipment to the ocean (dropped objects)
- incorrect disposal of wastes onshore by waste contractors.

10.10 Knowledge-Sharing and Health, Safety and Environment Communication

HSE communications include both internal communication to employees and external communication to stakeholders and is managed in accordance with Procedure HSE Communications, Consultation and Participation (ENI-HSE-PR-016). Emergency communications are described in the Emergency Response Plan (000036_DV_PR.HSE.0675.000).

HSE commitments and obligations are established, recorded, maintained, communicated and managed within Eni in accordance with Procedure Maintaining Knowledge of HSE Commitments and Obligations (ENI-HSE-PR-006).

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10.10.1 Internal Communications with Eni Natural Resources Division

Regular communications from the Eni Natural Resources Division regarding HSE matters include:

- guidelines for establishing annual HSE objectives
- requests of monthly, quarterly, and annual reports
- documentation relevant to establishing budgetary provisions for HSE activities
- highlighting of actions to improve certain objectives
- reports about HSE audits that may have occurred
- incident reporting and investigation and lessons learned
- publication of HSE articles in the Company's publications
- distribution of the policy, procedures, and other documents of the HSE Management System
- publication of Eni's annual Sustainability Report
- any other communication specific to a particular HSE event.


Eni Australia regularly communicates HSE performance information to Eni's Natural Resources Division through:

- monthly, quarterly and annual reports
- accident and incident reports and investigation
- audit and corrective action close out status
- HSE Qualitative Report (Four Year Plan) (ENI-HSE-RP-011) and HSE Annual Plan (ENI-HSE-PL-031).

10.10.2 Internal Eni Australia Communications

Typical examples of key internal Eni communications relevant to the Blacktip drilling activities are:

- weekly management meetings
- morning call
- back-to-back roster handovers
- Blacktip HSE meetings
- pre-start meetings
- safety initiatives and communications
- management safety visits.

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10.10.3 Non-Verbal Communication

In addition to the meetings described above, there are non-verbal means of communicating HSE issues within Eni, including:

- Eni Intranet websites
- emails
- HSE noticeboards.

The Eni Intranet site has a HSE page that contains links to:

- HSE IMS
- reporting forms
- incident and crisis management documentation
- Blacktip Safety Case documentation
- Blacktip Environmental Management Plan
- Blacktip Emergency Response documentation
- Blacktip Health Risk Assessment.

Emails are regularly used to communicate HSE issues within Eni. Typically, these would be:

- HSE Alerts – HSE Alerts are specific alert notices that arise from Hazard and Incident Reports and are typically only considered for high-potential incidents. The HSE Manager will decide whether to issue a HSE Alert to inform the wider workforce.
- HSE Bulletins – Notices on HSE topics that need to be raised in the workforce can be done so using HSE Bulletins. They can focus on a HSE theme or just raise a specific item of interest. The HSE Manager coordinates the development of new HSE Bulletins.

HSE noticeboards are present in all Eni offices and plants. They function to inform the workforce about HSE issues. The content of the noticeboard is managed by the POS. Regular items which are placed on the HSE noticeboards include:

- HSE Commitment Statement
- incident statistics
- incident descriptions
- audit reports
- hazard cards (for reporting hazards).

10.10.4 External Communications

External communication about HSE matters is typically made to a range of recipients, including governments (including government agencies and regulators), community groups, non-government organisations, customers, industry bodies and the media (Table 10.5).



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Table 10.5: External communication summary

External communication	Details on communication level
Government	Eni Australia's HSE communications with government authorities is undertaken according to legislative requirements and guidelines or, where none exist, best practice. Generally, HSE communications between Eni Australia and relevant government departments are performed through the Eni Operations and HSE Departments. Records of key communications are maintained by the relevant Eni department. The Managing Director may address communications with government bodies in certain circumstances (such as major accident investigation), in which case Eni Natural Resources may also become involved.
Non-Government Organisations and Community Groups	HSE communication and consultation with non-government organisations and community groups will generally be coordinated by the HSE Department. Technical HSE communications to non-government organisations and community groups may be handled via an HSE specialist assigned to the particular project. Technical HSE communications may be undertaken by an HSE specialist.
Customers	Eni Australia actively engages with its customers, to ensure there is a common understanding of HSE issues as they relate to the supply of products. HSE communication with customers will generally be coordinated by the relevant department(s) with advice from the HSE Department.
Business and Industry Organisations	Eni is a member of the APPEA and the WA and NT Chambers of Commerce. Interaction with the business community also occurs in Eni's day-to-day business. Industry forums, such as the APPEA conferences and Southeast Asian & Australian Offshore Conference, allow Eni to further communicate HSE aspects. HSE communication with unions is coordinated by the Human Resources Department with advice from the HSE Department.
Media	Media liaison occurs in relation to crisis and emergency situations and is managed in accordance with the relevant Eni Crisis Management Plan.
Public HSE Reporting	Eni Australia, through its corporate head company Eni Natural Resources, communicates externally to the public about Eni's significant HSE aspects through a public Sustainability Report. This report contains information about the HSE performance of Eni Divisions and Business Units, including Eni Australia. The Sustainability Report enables Eni to share its vision and commitment to sustainable development with its staff, all relevant stakeholders and the public. It is available on the Eni internet site.

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10.11 Management Review and Improvement

The HSE IMS is reviewed on a minimum five-yearly cycle in association with risk assessment outcomes and incident reviews for required changes. This review includes the review of any triggers requiring update to the HSE IMS (as detailed below), as well as general business planning outcomes and assessments of the effectiveness of performance standards. The review also documents actions and requirements for items, including the review and update of procedures and systems as identified in the HSE IMS review.

The HSE IMS review also incorporates feedback from the public and regulators with respect to performance and expectations.

The changes that may initiate review of the HSE IMS include:


- legislative changes, including changes to regulatory regime (modification to Pipeline Licence conditions)
- advancement in technology
- significant changes arising from hazard and event investigations to prevent recurrence
- significant changes due to complaints and changing community expectations
- significant changes and improvements identified from various risk assessments, including ongoing HAZOPs, HAZIDs, JHAs and other hazard identification processes
- significant changes in activities (methodology in work processes)
- significant changes in organisation structure, and business policies and objectives
- significant changes resulting from monitoring of HSE key performance indicators
- remedial actions from audits.

10.11.1 Health, Safety and Environment Management Review

A formal management review is conducted yearly to assess overall implementation of the HSE IMS as per the Procedure HSE Management Review (ENI-HSE-PR-014). Areas in need of reinforcement are identified and as a result the elements of the system that need to be reinforced are highlighted. Action plans and responsibilities are agreed to improve risk management and the overall HSE performance of Eni Australia.

This typically includes reviews of the:

- changes in:
 - external and internal issues that are relevant to the environmental management system
 - the needs and expectations of interested parties, including compliance obligations
 - significant environmental aspects
 - risks and opportunities

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- information about environmental performance, including trends in:
 - non-conformances and corrective actions
 - monitoring and measurement results
 - fulfilment of compliance obligations
 - audit results
- adequacy of resources
- relevant communication(s) from interested parties, including complaints
- opportunities for continual improvement
- changes in legislation or guidance, such as current requirements for AMPs
- advances in relevant environmental technology and new scientific information.

Oil spill arrangements and testing are reviewed in accordance with the Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15).

10.11.2 Continuous Improvement

Continuous environmental improvement of performance is driven at the Blacktip facilities by a number of mechanisms. These include:

- corporate initiatives
- auditing (Section 10.6)
- hazard and incident reporting (Section 10.8.2)
- incident investigation (Section 10.13)
- HSE data monitoring and reporting (Section 10.5).


Reporting of incidents and the monitoring of this data draws management's attention to trends resulting from potential weaknesses. Thorough investigation of incidents can be used to alert management to system failures.

HSE auditing can uncover system failures before incidents occur. Auditing, reporting and monitoring can notify management of a deficiency in the HSE IMS or of a problem with implementation of the HSE IMS.

Eni is responsible for implementing an ongoing process to identify and assess suitable measures for improving plant reliability and availability, plant safety levels and for reducing maintenance activities' workload and material costs.

10.12 Management of Change and Reviews of this Environment Plan

Change is managed in accordance with the Eni Australia Procedure Management of Change (ENI-HSE-PR-002). For this EP, the MoC process considers OPGGS(E) Regulation 19 and determines if a proposed change can proceed and the manner in which it can proceed.

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The MoC procedure applies to changes in operational assets, systems, processes, operations, products, organisation, and staffing that have the potential to alter hazard or risk levels, affect environmental outcomes, including compliance with applicable laws or standards, or to significantly affect a stakeholder involved with the above items. Standard modification or changes that occur within existing work processes (such as Permit to Work system) or are of a routine nature are not included in this procedure.

Potential changes in risk originating from internal and external factors may lead to EP reviews. Changes which may lead to an EP review may include:

- those concerning the scope of the activity descriptions (Section 2.1.3),
- advances in technology
- new scientific information
- changes in understanding of the environment, such as advice about species protected under the EPBC Act and current requirements for AMPs (Section 4.5.1)
- potential new advice from external stakeholders (Section 5), which will be reviewed in regard to OPGGS(E) Regulation 19.

Factors which may lead to an EP review are identified through a number of means, including:


- internal knowledge sharing and HSE communication (Section 10.10.1)
- internal communications (Section 10.10.1)
- HSE management review (Section 10.11.1)
- non-verbal communications (Section 10.10.3)
- external communications (Section 10.10.4).

If a review of the activity and the environmental risks and impacts does not trigger a requirement for a revision, the change is considered minor. Minor change will be considered a 'minor revision'. Minor administrative changes to this EP, where an assessment of the environmental risks and impacts is not required (such as document references, phone numbers), will also be considered a 'minor revision'. Minor revisions will be tracked by Eni through its document change register on SharePoint and incorporated during internal reviews.

Management review (Section 10.11) or further understanding of environment risks through knowledge-sharing (Section 10.10) may trigger a review of the EP. Internal reviews will address matters such as the overall design and effectiveness of the EP, progress in environmental performance, changes in environmental risks, changes in business conditions, and any relevant emerging environmental issues or change in understanding of the environment (such as protected matters requirements). Reviews may also trigger adoption or reconsideration of once-rejected controls within the EP.

This EP will be revised:

- if and when an environmental inspection and audit (see Section 10.6) of the activity finds significant breaches of the EP requirements

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- if any significant new environmental risk or effect, or significant increase in an existing environmental risk or effect, occurs that is not provided for in the existing EP as required by OPGGS(E) Regulation 17.

10.13 Incident Management

10.13.1 Overview

The basic principle of incident and crisis management (ICM) within Eni is to utilise the entire organisation in the most optimal way, to ensure the incident is brought under control, and the organisation is then returned to a normal state. All responses to an emergency or a crisis are based on the priorities of:

- P** protection of **people**
- E** protection of the **environment**
- A** protection and minimisation of damage to financial and material **assets**
- R** protection of Eni's **reputation**.

The response should be proactive and sufficiently robust to manage all foreseeable events, be prepared for any reasonable variation, be able to flexibly meet an escalation of events and make the best use of the entire organisation.

10.13.2 Incident and Crisis Management Organisational Structure


The Eni ICM organisational structure consists of three core levels:

1. Crisis Management
2. Incident Management
3. Field Response.



Figure 10.2: Incident and crisis management core levels

Principal duties of each level and the timescale in which they shall endeavour to operate are illustrated in Figure 10.3.

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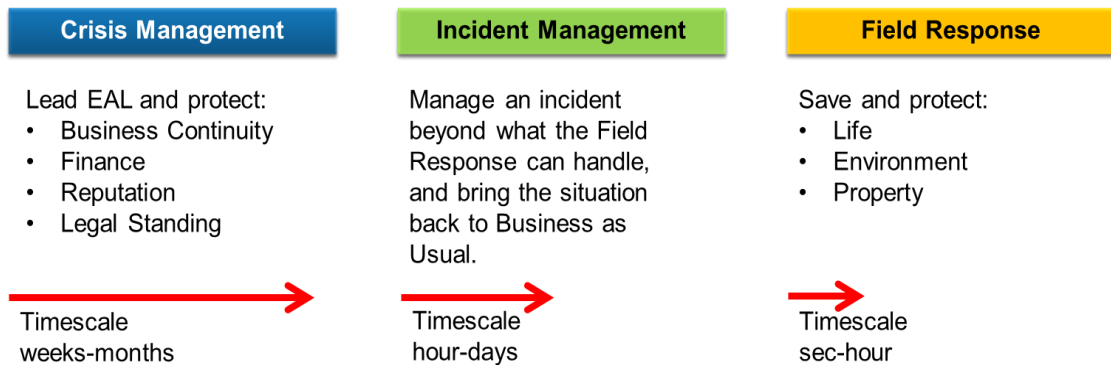


Figure 10.3: Incident and crisis management organisation’s principal duties and timescales

10.13.3 Chain of Command

Eni Australia’s ICM Chain of Command is a three-level structure. This is represented in Figure 10.4.

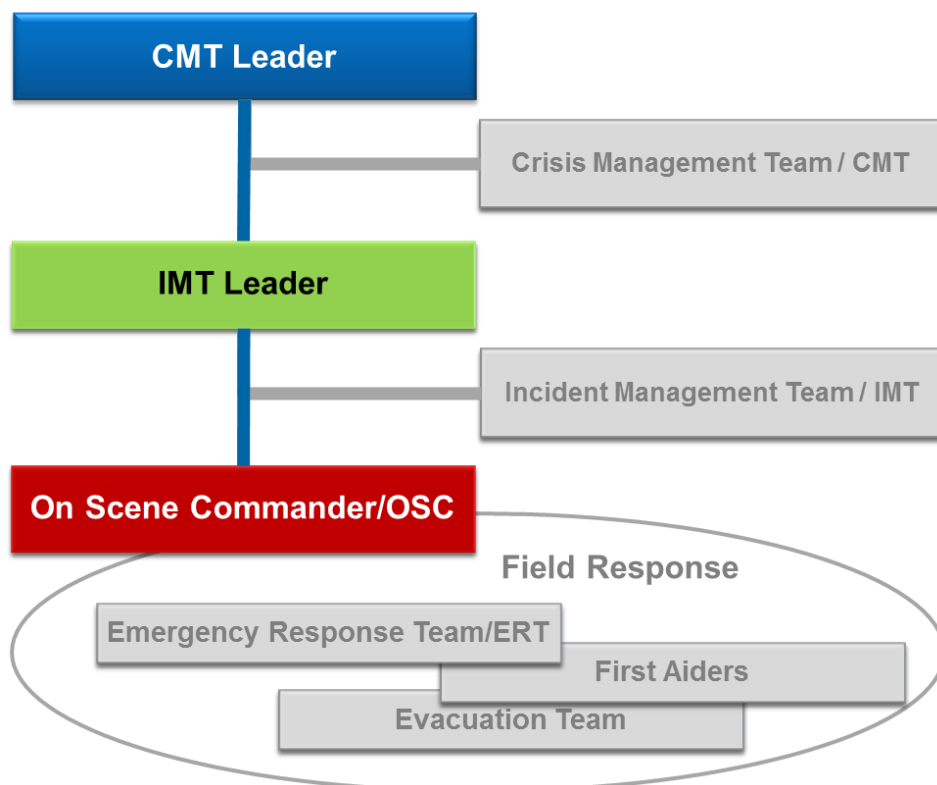



Figure 10.4: Incident and crisis management organisation chain of command

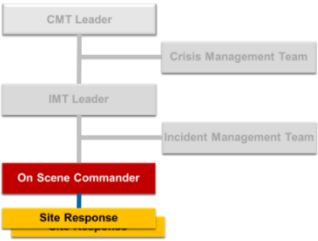
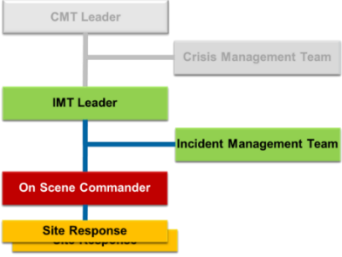
The role holders in the ICM organisation can vary over time. As the responsibility for the response to the incident moves from one organisation to another, a role holder is replaced with a more suitable or more competent individual from the same organisation, or the incident is of such duration that shift changeover is required due to fatigue risk.


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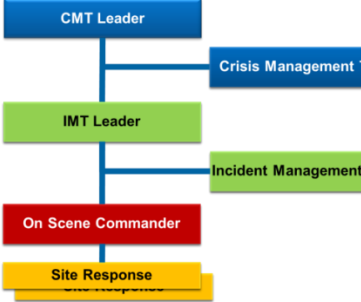
10.13.4 Activation

Activation of the ICM organisation is to be executed in the steps shown in Table 10.6.

Table 10.6: Activation of levels in the incident and crisis management organisation

Severity level	Activation	Illustration (activated parts of the organisation in colour)
Pre-alarm		
Any event, strictly defined as a process safety event or event generated on the equipment/plant by natural risks, which does not lead to an emergency but is visible, audible or in any case noticeable by the population, Institutions, Administrations and Bodies responsible for health, safety and the environment and which may have a significant media impact at local or national level.	Operational response only IMT informed	
Level 1		
An event that can be managed at site level with the personnel and means available there, under the responsibility of the Employer; divided into noticeable from the outside or not.	Planned tactical response only IMT informed	
Level 2		
An event that can be managed locally under the responsibility of the Employer, with assistance from the Business Unit and Administration at a peripheral level.	Planned tactical response IMT mobilised Eni Australia Managing Director informed CMT mobilised (Managing Director discretion)	

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Level 3		
<p>An event that determines a seriously dangerous situation for the site /or the surrounding territory, managed under the responsibility of the Employer, with assistance from the Business Unit and the pertinent HSE unit and with the support of the EMRIL unit. For sites at risk of a major/serious incident, covered by the appropriate national/ international regulations, it may be necessary to implement the external/national emergency plan in coordination with the local or national public Authorities.</p> <p>In the event of third level emergencies with significant impacts, prolonged over time and capable of having serious repercussions on corporate integrity at an international level, Eni supports the management of the emergency through the Crisis Unit in close contact with the Top Management Committee.</p>	<p>Planned tactical response</p> <p>IMT mobilised</p> <p>CMT mobilised</p> <p>Eni Headquarters mobilised</p>	

10.13.5 Blacktip Field Response

The field response conducts the mitigation work at a facility. A field response can involve, but is not limited to, emergency response teams, first aiders, evacuation team and oil spill response teams.

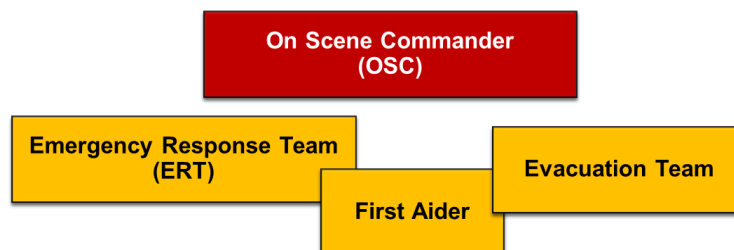



Figure 10.5: On-scene command

For each field response, irrespective of its extent or complexity, there shall always be an On-Scene Commander in direct command of the operation (Figure 10.5).

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Blacktip Operations Emergency Response Manual 000036.DV.PR.HSE.0772.000 establishes an understanding of the roles and responsibilities for managing, controlling and responding to an emergency associated with Eni's Blacktip facilities. The manual outlines the:

- emergency management structure within Eni Limited
- emergency management structure for Blacktip operations
- procedures for response, control and coordination
- critical internal and external support links and relationships with external response agencies
- facilities and response equipment and inventories for facilities
- training and exercises.

The Emergency Response Manual refers to the Blacktip Emergency Response Plan 000036_DV_PR.HSE.0675.000, which outlines responses for scenarios at the Blacktip facilities. In addition, the Manual is supported by or supports the:

- Eni Crisis and Incident Management Plans
- Offshore WHP Security Plan 00710200PFRV05691
- Contractors' Emergency Response Plans.

The Blacktip Emergency Response Plan 000036_DV_PR.HSE.0675.000 addresses a wide range of emergencies involving threats to the health and safety of personnel at or near the Blacktip facilities. The emergencies associated with the WHP addressed in the plan include:


- topsides loss of containment or blowout
- pipeline loss of containment
- ship collision
- helicopter emergency
- person overboard
- medevac.

The Emergency Response Plan details the course of action to be followed for each event to ensure personnel safety is maintained as far as possible during emergency events.

Emergency response documentation is reviewed annually; a review is also undertaken after any incidents. Eni evaluates the effectiveness of the emergency management system via audits and monitoring of exercises.

10.13.6 Coordination with Other Organisations

During an incident, Eni will manage all contacts and coordination with Australian local Public Authorities and Agencies from the IMT and CMT.

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In some cases, Eni's ICM organisation will operate in parallel or integrated with other organisations; for example, a contractor company, joint venture partner or a company operating in the vicinity of an Eni facility. In these cases, it is important liaison is established on 'equivalent levels' and in accordance with common principles for incident management.

10.13.7 Emergency Response Training

The emergency response training required for each functional role on the Blacktip facilities are detailed in the Blacktip Emergency Response Training Matrix (ENI-HRO-ST-001). Eni engages external consultants to provide nationally-recognised training for emergency roles.

Members of the ICM organisation have the necessary competence and formal authorisation to efficiently and effectively perform their tasks. Comprehensive training is provided to all personnel in the ICM organisation comprising theoretical training, exercises and drills. A competency assessment system is integral in the ICM system in order to verify the competency of post holders.

It is a requirement for all personnel working offshore to undergo the formal Offshore Petroleum Industry Training Organization-accredited Tropical Basic Offshore Safety Induction and Emergency Training course. This requirement applies to contractors and visitors.

10.13.8 Dangerous Weather Response


Tropical cyclones and other storm conditions have the potential to cause damage to personnel, the environment and equipment. Standard Adverse Weather (ENI-HSE-ST-031) and Cyclone Preparation Plan (000036_DV_EX.OPS.0758.000) include detailed procedures for preparing for and responding to cyclone events. The response goal during a cyclone event is to protect personnel, the environment, equipment and the subsea equipment integrity.

Eni uses experienced weather service providers, such as the Bureau of Meteorology and Weatherzone, to provide current, location-specific forecasts. Eni uses specifically tailored services for its real-time forecasting and severe weather forecasting capabilities. They advise key Eni personnel of any actual or potential severe weather to support Eni's operations and strategic planning. The POS must ensure he or she receives email notification of cyclones from the provider. This includes:

- Tropical Cyclone seven-day outlook
- Tropical Cyclone forecast.

The Cyclone Preparation Plan (000036_DV_EX.OPS.0758.000) outlines the responsibilities for implementing the plan and a checklist for decision-making.

The MODU and vessels or any vessels used during the Blacktip drilling activities will receive daily forecasts from the Bureau of Meteorology. In the event the cyclone (or severe weather) is forecast and it has the potential to affect the Blacktip drilling activities, the cyclone management plan will be actioned. If required, vessels can transit from the proposed track of the cyclone (or severe weather).

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APPENDICES

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APPENDIX A:

EPBC APPROVAL



**Notification of
VARIATION TO APPROVAL DECISION**

Blacktip Gas Field Development, WA and NT (EPBC 2003/1180)

This decision to vary a condition of approval is made under section 143 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Proposed action

Person to whom the approval is granted ENI Australia

Proposed action To develop the Blacktip Gas Field, Joseph Bonaparte Gulf and associated marine and terrestrial facilities and activities as described in the referral under the Act received on 9 September 2003 (EPBC 2003/1180).

Approval decision

Relevant controlling provisions The approval has effect for:

- Listed threatened species and communities (sections 18 & 18A)
- Listed migratory species (sections 20 and 20A)
- Commonwealth Marine Area (sections 23 and 24A)

Variation of conditions of approval Delete Conditions 1 to 9 of the approval dated 29 November 2005, and substitute the conditions specified below.

Expiry date of approval This approval has effect until November 2040.

Person authorised to make decision

Name and position Michelle Wicks
A/g Assistant Secretary
Environment Assessment Branch

Signature *MWicks*

Date of decision *7 August 2008*

Varied conditions attached to the approval

1. The person taking the action must submit, for the Minister's approval, a plan for managing the offshore impacts of construction. The plan must address the following:
 - a) design and construction of facilities to allow for the complete removal of all structures and components (except flowlines) above the sea floor;
 - b) sea floor surveys around proposed flowline paths and well sites to identify sensitive marine ecosystems such as reefs, sponge beds and sea grasses and historic shipwrecks;
 - c) selection of flowline paths and well sites to avoid impacts on sensitive marine ecosystems referred to in 1. b), and historic shipwrecks;
 - d) a schedule of works;
 - e) managing the impacts on cetaceans, including interaction procedures for aircraft and supply and construction vessels that are consistent with *Part 8 of the Environment Protection and Biodiversity Conservation Regulations 2000*;
 - f) ballast water management for international construction or tanker vessels arriving in Australia in accordance with Australian Quarantine and Inspection Service *Australian Ballast Water Management Requirements*;

Offshore construction may not commence until the plan is approved. The approved plan must be implemented.

2. The person taking the action must submit, for the Minister's approval, a plan for managing the offshore impacts of operation. The plan must address the following:
 - a. the monitoring and disposal of produced water (PW) including the following:
 - i. Analysis of expected PW chemistry;
 - ii. Baseline biological and physical information at the PW outfall site;
 - iii. Toxic impacts of PW on marine flora and fauna based on ecotoxicological, bioaccumulation and biodegradation studies;
 - iv. Industry best practice disposal of PW;
 - v. Monitoring and reporting of biological and physical indicators; and
 - vi. Contingency measures if adverse impacts occur
 - b. managing the collection, handling and disposal of naturally occurring radioactive materials that may occur;
 - c. the use and disposal of hydrotest water additives, based on modelling of the hydrotest water discharge plume;
 - d. the use and disposal of drilling muds, including monitoring of water quality, in the event that low toxicity, water based drilling fluid additives cannot be used.

Operations may not commence until the plan is approved. The approved plan must be implemented.

3. The person taking the action must submit for the Minister's approval an oil spill contingency plan to mitigate the environmental effects of any hydrocarbon spills. The plan must identify oil sensitive marine environments and biota, and address spill response and cleanup strategies, the equipment to be used and the identification of capacity to maintain and implement rapid response equipment, the rehabilitation of impacted ecosystems, the training of staff in oil spill response measures and the reporting of oil spill incidents to the Minister. The plan must include details of insurance arrangements that have been made in respect of the costs associated with repairing any environmental damage arising from potential oil spills.

Offshore construction may not commence until the plan is approved. The approved plan must be implemented.

4. The person taking the action must submit, for the Minister's approval, a plan or plans to address measures for minimising the potential for listed threatened turtles to be impacted during pipeline construction and for monitoring of the impacts on turtles. The plan or plans must address the impacts of onshore and near shore lighting, the construction, any seabed or onshore blasting required, and the rehabilitation of potential turtle habitat after construction.

Onshore construction may not commence until the plan or plans are approved. The approved plan or plans must be implemented.

5. At least twelve months before the expiry of this approval, the person taking the action must submit a decommissioning plan to the Minister for approval, addressing the removal of all structures and components above the sea floor.

Decommissioning may not commence until the plan is approved. The approved plan must be implemented.


6. On 1 July of each year, the person taking the action must provide a certificate stating that the person taking the action has complied with the conditions of this Approval.
7. If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans referred to in conditions 1, 2, 3, 4 and 5 the person taking the action may submit for the Minister's approval a revised version of any such plan. If the Minister approves a revised plan so submitted, the person taking the action must implement that plan instead of the plan as originally approved.
8. If the Minister believes that it is necessary or desirable for the better protection of the environment to do so, the Minister may request the person taking the action to make specified revisions to a plan approved pursuant to conditions 1, 2, 3, 4 and 5 and to submit the revised plan for the Minister's approval. The person taking the action must comply with any such request. If the Minister approves a revised plan pursuant to this condition, the person taking the action must implement that plan instead of the plan as originally approved.
9. The person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister within 12 months of commencement of construction and within 2 years of commencement of operations. The independent auditor must be approved by the Minister prior to commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.

Definitions

Structures and components: above sea floor infrastructure associated with the development of the Blacktip gas field includes sub sea wellheads, offshore wellhead platform, sub sea gas export pipeline, and condensate and produced water pipelines from the onshore gas processing facility.


Onshore construction: the commencement of any works above the low water mark that may impact on flora and fauna due to disturbance of habitat, including disturbance resulting from plant removal, disturbance of soil, increased noise and/or lighting.

Offshore construction: all activities occurring below the low water mark that relate to the construction and installation of facilities associated with the commissioning of the Blacktip Gas Field and the transport of resources.

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APPENDIX B:

ENVIRONMENTAL VALUES AND SENSITIVITIES


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- B1: OPERATIONAL AREA PMST RESULTS
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- B3: EMBA PMST RESULTS

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1 DESCRIPTION OF THE ENVIRONMENT

This Appendix supplements Section 4 of the Blacktip Offshore Drilling EP (000036_DV_PR.HSE.0677.000) and describes the environment within the Operational Area and EMBA. It includes details of the relevant environmental values and sensitivities of the environment as required by Regulations 21(2) and 21(3) of the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (OPGGS(E) Regulations).

Searches for protected species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) were undertaken for the Operational Area, EMBA and moderate exposure area (refer Attachment B1-B3), using the DCCEEW Protected Matters Search Tool (PMST) for the purpose of identifying matters of national environmental significance listed under the EPBC Act. This document is informed by these searches.

For a description of the Operational Area, EMBA and moderate exposure area refer to the EP.

For figures of Biological Important Areas (BIAs), Habitat Critical for the Survival of species, Australian and State Marine Parks refer to Section 4.4 of the EP.

Socio-economic and cultural values of the Operational Area and EMBA, have been presented in Section 4.6 of the EP.


1.1 Physical Environment

1.1.1 Climate

The climate in the Joseph Bonaparte Gulf (JBG) region is monsoonal with a wet summer and a dry winter. The wet season commences between September and November as the south-east trade winds weaken over northern Australia and land temperatures rise. This results in two or more semi-permanent heat lows forming over central Australia, one over the Kimberley and Great Sandy Desert, and often another just south of the Gulf of Carpentaria.

The early part of the wet season is marked by frequent thunderstorms. As the season progresses, moist ocean air from the north and north-west streams into the lows and several days of heavy rain may occur.

Mean daily maximum temperatures for Port Keats range from about 30°C to 34°C, and minima from 14.5°C to 25°C (BOM, 2008). Annual rainfall is 1,521 mm. Almost all rainfall occurs between November and April (wet season), with the greatest falls being in January and February. The frequency and severity of the thunderstorms produce a large variation in the monthly rainfall. Rainfall during the dry months is sporadic and light.

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1.1.2 Wind Pattern

Figure 1.1 shows the seasonal wind roses for the Climate Forecast System Reanalysis (CFSR) data point closest to the Blacktip P3 Development Well (13° 53' 24" S, 128° 19' 48" E). This point is around 16.7km west of the spill location. The data shows that the wind speeds and directions vary between seasons. During summer (December to February), the winds blow predominantly from the west, and in winter (April to August) the winds blow predominantly from the south-east. During transitional conditions, wind directionality is more variable and wind speeds are generally lower than in the other season. The greatest average wind speeds are observed during winter (6.0 m/s), and peak wind speeds exceeding 20 m/s are most commonly observed in summer and winter.

Winds are predominantly from the north-west between September and February and from the south-east between April and July. Winds are more variable during the transition periods between the two seasons in March and August. Tropical cyclones can develop between November and April resulting in short lived, severe storm events often with strong but variable winds.

During the wet season cyclones are a feature of the region. On average there are 7.7 days per season when cyclones exist in the region which typically occur between December and April bringing gale force winds and severe storms. Cyclones in the region typically form south of the equator in the Timor or Arafura seas when sea temperatures are above 26.5°C and head east.

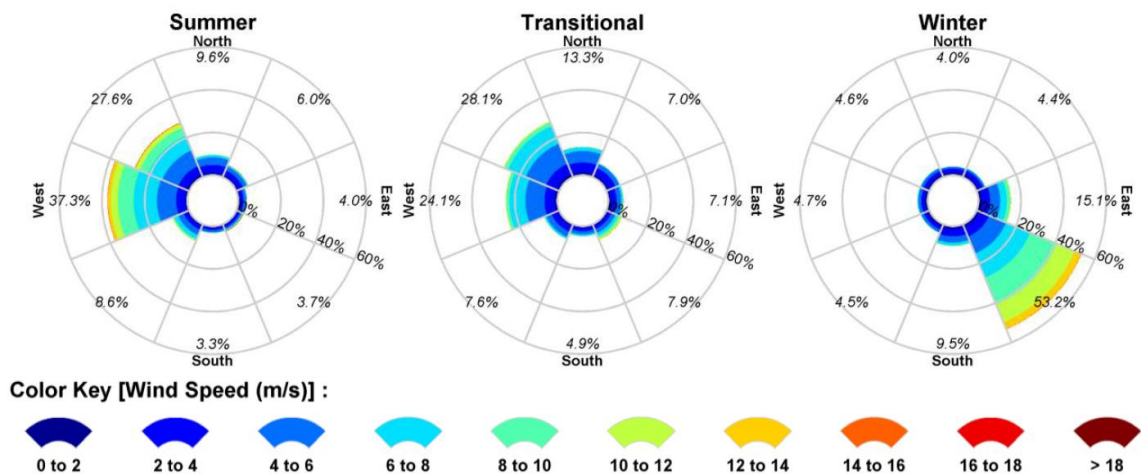



Figure 1.1: Seasonal wind distribution (1997-2006, inclusive) derived from the CFSR database near to the WHP

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1.1.3 Oceanography

Circulation in the JBG is dominated by the large tidal currents. Maximum current speeds at the Blacktip WHP range from 0.2 m/s on neap tides to 0.9 m/s on springs (Metocean Engineers, 2004). The currents rotate in a clockwise direction with the major flood and ebb directions towards the south-east and northwest, respectively. Further towards the shoreline, current speeds increase with tidal range and become directed more longshore. These large currents are responsible for the generation of dune forms on the seabed as noted in Admiralty Charts for the region. Very nearshore currents are influenced by the coastal topography with an anticlockwise gyre forming on the flood tide and a clockwise gyre on the ebb.

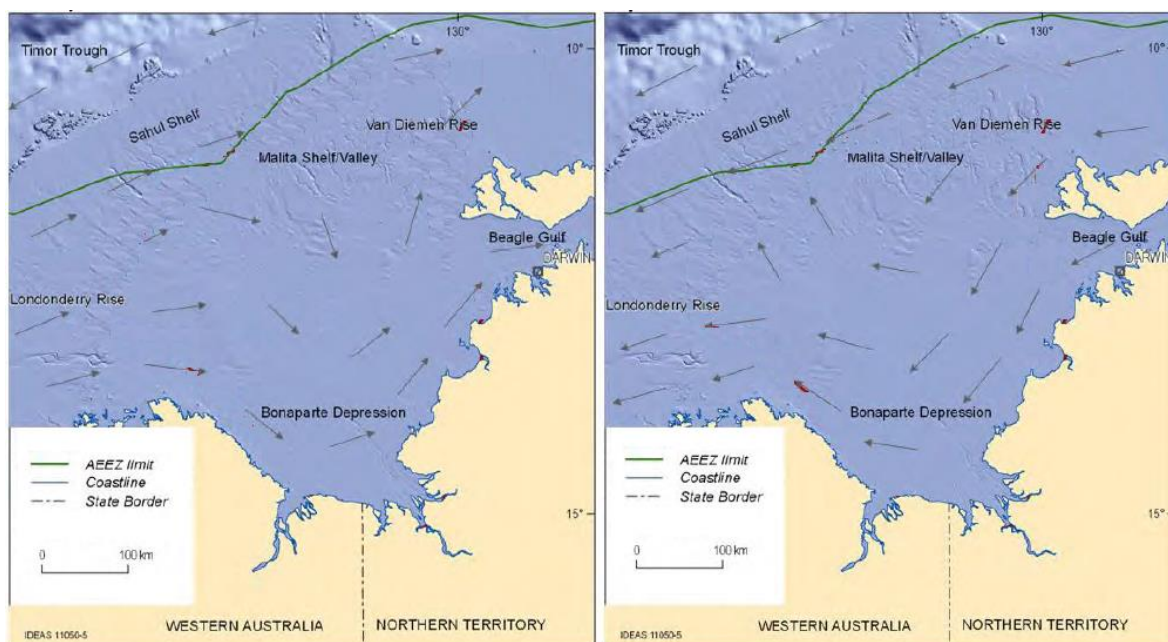



Figure 1.2: Joseph Bonaparte Gulf wind driven currents for monsoon (January, left) and trade wind (July, right) conditions (DoEE, 2013)

Large scale ocean circulations are forced by synoptic scale winds. The south-east trade winds drive a mean westerly current of up to 0.2 m/s in the Timor Sea. In the wet season, currents reverse to flow towards the east. The influence of these large-scale circulations in the JBG is unknown.

The JBG experiences a mixed semidiurnal tide with a very large range in tidal elevations and correspondingly strong tidal currents (Przeslawski *et al.*, 2011). The region is also affected by cyclones at an average annual rate of 0.6 cyclones per year (Woodside, 2004). Cyclone events generate the strongest currents in the Gulf, with current speeds in some areas expected to reach 1.4 m/s; however, the ambient, non-cyclonic wind-driven currents are generally less than 0.1 m/s (Woodside, 2004; Przeslawski *et al.*, 2011). Ambient wind-driven currents are generally directed from west to east during the monsoon season (December to March) and east to west during the trade wind season (April to November), while an offshore westward current persists throughout the year.

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The tides in the JBG propagate in from the Timor Sea and circulate around an Amphidromic Point located offshore from Cape Londonderry in the north-west. The JBG is subject to a tidal range of greater than four meters which is the highest tidal range in Northern Australia. The tides in the JBG are semi diurnal and the tidal wave propagates in from the Timor Sea and circulates around an amphidromic point located offshore from Cape Londonderry in the north-west. Tidal ranges increase shorewards with maximum tidal ranges exceeding 8m along the shoreline between Wyndham and Darwin.

The Holloway Current (Figure 1.3), a relatively narrow boundary current that flows along the north-west shelf of Australia between 100 and 200m depth, also influences the seas in the EMBA.

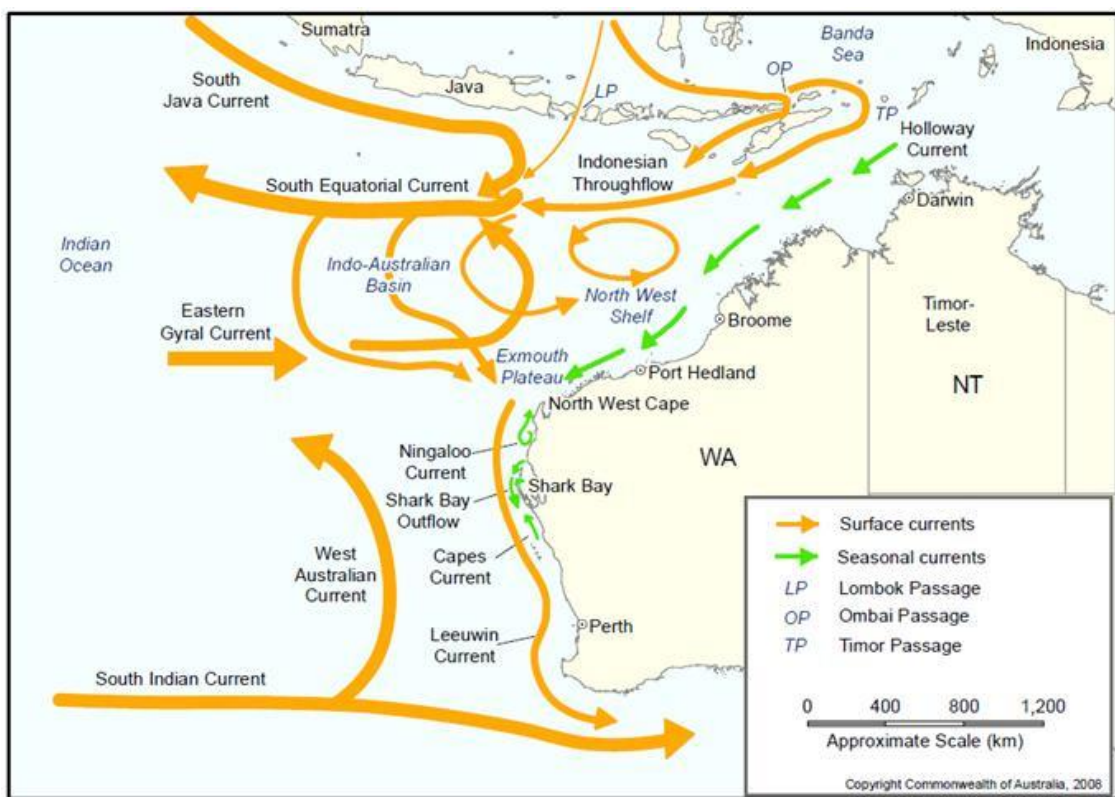



Figure 1.3: Surface currents Northern Territory and Western Australia

The closest tidal station to the Operational Area is Port Keats, which is a secondary port located between the two standard ports of Darwin and Cape Domett. The tides are semidiurnal (two highs and lows each day) with a slight diurnal inequality (difference in heights between successive highs and low). There is a well-defined spring-neap lunar cycle, with spring tides occurring two days after the new and full moon. [Table 1.1](#) provides the standard levels for Port Keats. Highest astronomical tide exceeds 8m and the mean ranges for spring and neap tides are 5.6m and 1.9 m, respectively. Tidal ranges reduce offshore towards the Operational Area.

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High energy tidal currents along much of the region’s coastline stimulate mixing and sediment movement throughout the year, contributing to the highly turbid and relatively productive inshore environment. Terrestrial inputs of freshwater, sediments and detritus are generally compartmentalised within a fairly distinct coastal boundary layer, which is particularly well-developed within the JBG.

Superimposed on the astronomical tide are ‘meteorological’ tides resulting from changes in atmospheric pressure and strong onshore or offshore winds. Storm surges during cyclones, in particular, can appreciably raise sea levels above the predicted astronomical tidal height and inundate low lying areas.


Table 1.1: Standard tide levels for Port Keats (AHS, 2003)

Port Keats	Level (m)
Highest Astronomic Tide	8.2
Mean High Water Springs	7.2
Mean High Water Neaps	5.3
Mean Sea Level	4.4
Mean Low Water Neaps	3.4
Mean Low Water Springs	1.6

During the winter season, the ambient wave climate at the Operational Area will be composed of waves generated from the prevailing south and south-easterly trade winds. Wave generation will be fetch limited and mean monthly significant wave heights are predicted to be fairly constant, ranging between 0.8m and 1.0m with mean period of between 8 to 9 seconds.

During the summer season, the Operational Area is exposed to both sea and swell generated from the prevailing north-westerly monsoon winds blowing across the Timor Sea. As such, the predominant swell direction is from the northwest with mean monthly periods of between 7 to 10 seconds. Monthly mean significant wave heights range from a minimum of 0.45m in September to a maximum of 1.6m during February. Shorter period swells (6 to 10 seconds) may result from tropical cyclones, winter easterlies over the Arafura Sea and the eastern portions of the Timor Sea, and summer westerlies over the western portions of the Timor Sea. Extreme waves are generated by cyclones during the summer season.

Mean monthly surface temperatures in the vicinity of the Operational Area are expected to be approximately 25°C in August and 30°C. Due to the large tidal range and high currents, the water column is expected to be well mixed all year round with no temperature stratification during the winter months. During heavy rainfall, there may be some salinity stratification in the south of the JBG. Water temperatures within the EMBA are expected to be broadly within the ranges of those observed in the Operational Area.

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1.1.4 Geomorphology and Geology

The Operational Area is located in the Petrel Sub-Basin, in the Southern Bonaparte Basin, which contains a thick sequence of Palaeozoic sediments with a thin cover of Mesozoic rocks.

Five significant discoveries have been made in the Southern Bonaparte Basin offshore. The Blacktip, Tern and Petrel Fields comprise gas-bearing Permian—Late Carboniferous sandstones; and the Turtle and Barnett Fields consist of stacked oil-bearing sandstones of Permian-Carboniferous age (Figure 1.4). The fields are charged from mature early Carboniferous and Permian source kitchens. Basin modelling indicated that hydrocarbons expulsion took place from late Triassic to late Cretaceous.

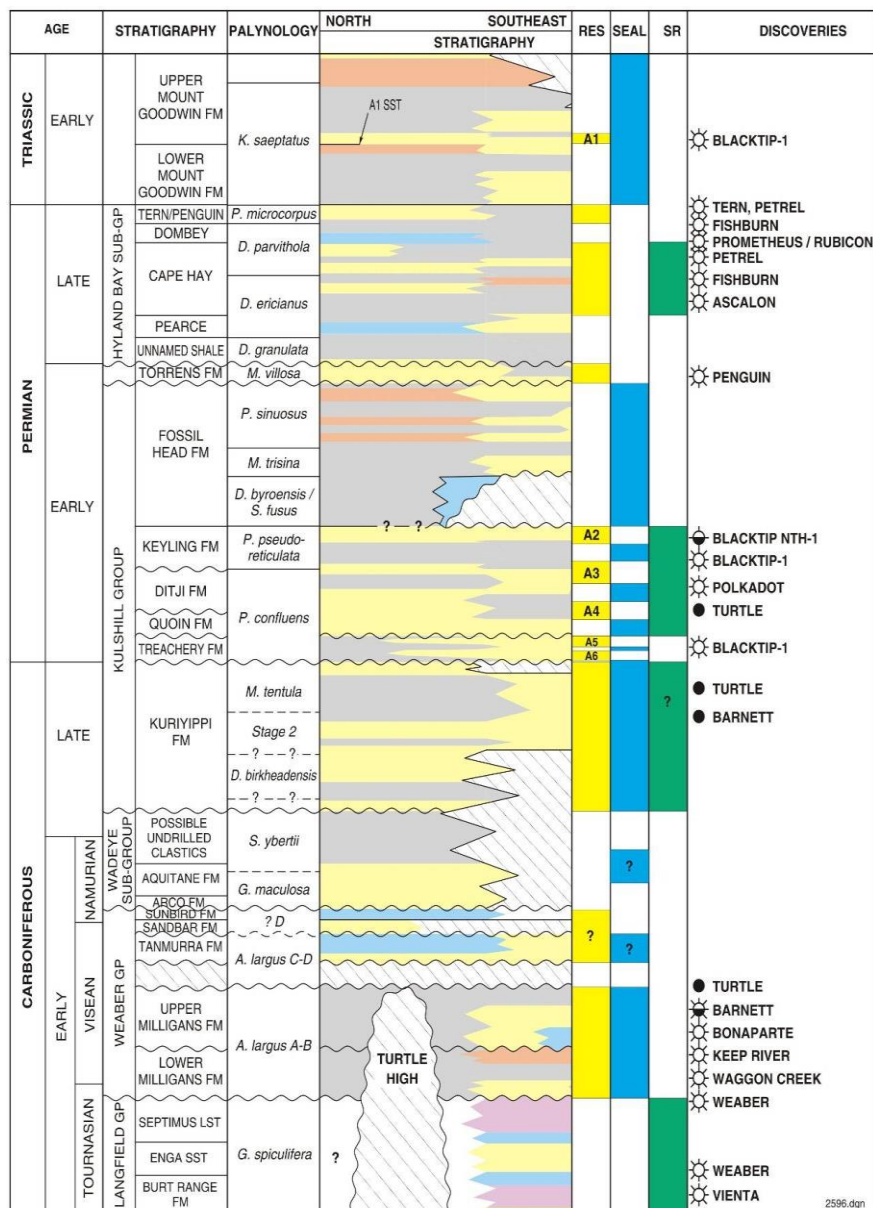



Figure 1.4: Southern Bonaparte Basin stratigraphy

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1.2 Key Marine Habitats

1.2.1 Seabed and Sedimentation

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

The Operational Area is located in the upper (outer) reaches of the JBG, in an area of relatively flat featureless seabed. Sediments are predominately very soft, grey-green, gravelly sand clays (Woodside, 2004).

The EMBA overlaps with the carbonate bank and terrace system of the Sahul Shelf KEF (refer to Section 4 of the EP). The nearest feature of the carbonate bank and terrace system of the Sahul Shelf KEF is 20km to the south east of the Operational Area. The Sahul banks are a chain of complex submerged algal banks on the middle and outer continental shelf (Heap & Harris, 2008). The system is of regional significance due to enhanced biodiversity and productivity compared with surrounding areas. The Sahul banks feature hard substrate suitable for sessile species in an otherwise soft sediment environment. Banks within the KEF rise steeply from 80m to 30m water depth in some areas, with the elevated hard substrates providing suitable surfaces for organisms to adhere to, and ideal sites for exposure to passing nutrients and light (in areas <45m water depth).


Sessile benthic invertebrate communities including hard and soft corals, sponges, fans, whips and bryozoans are found within the KEF (Nichol *et al.*, 2013, NERP MBH, 2014). The banks are considered a biodiversity hotspot for sponges with more species and different communities than the surrounding seafloor (NERP MBH, 2014).

Further information on the Sahul Shelf KEF and other relevant KEFs within the EMBA are presented in Section 1.4.3.

1.2.2 Open Water Benthic Habitats

The dominant offshore features in the lower JBG are the elongated parallel sand shoals extending out from the Victoria River and the extensive sand shoals on either side of the entrances to the Cambridge Gulf, known as the King Shoals and Medusa Banks. Depth increases gradually out to the continental margin; however, the continental shelf is dissected by numerous paleo-channels. Shallow shoals, small seamounts and occasionally a few islands and tidally exposed reefs occur along the edge of the continental shelf.

The Operational Area is within areas of infaunal plains identified by flat, soft substrate with occasional rocky outcrops, scattered epifauna, biota dominated by infauna (Figure 1.5). Previous surveys at the Blacktip WHP have not identified any sensitive seabed habitats (Woodside, 2004).

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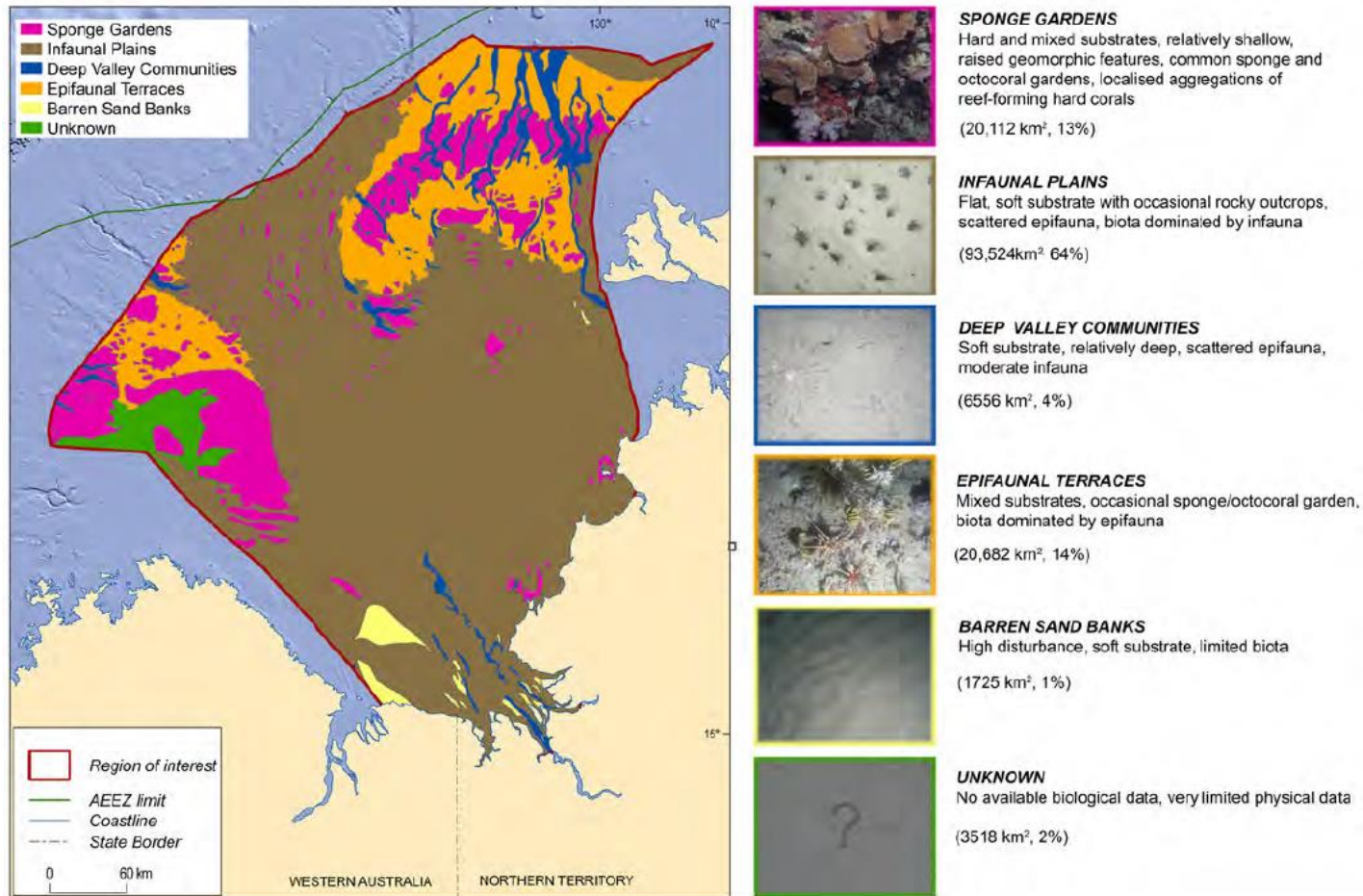



Figure 1.5: Distribution of habitats and biological communities in the JBG (Przeslawski & Nichol, 2012)

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1.2.3 Intertidal Shorelines

1.2.3.1 Joseph Bonaparte Gulf

The lower part of JBG, to the south and east of the Operational Area is relatively shallow with a coastline dominated by sand banks, extensive mudflats, mangrove systems, tidal creeks and the estuaries of the Victoria River system and Cambridge Gulf (Figure 1.6).

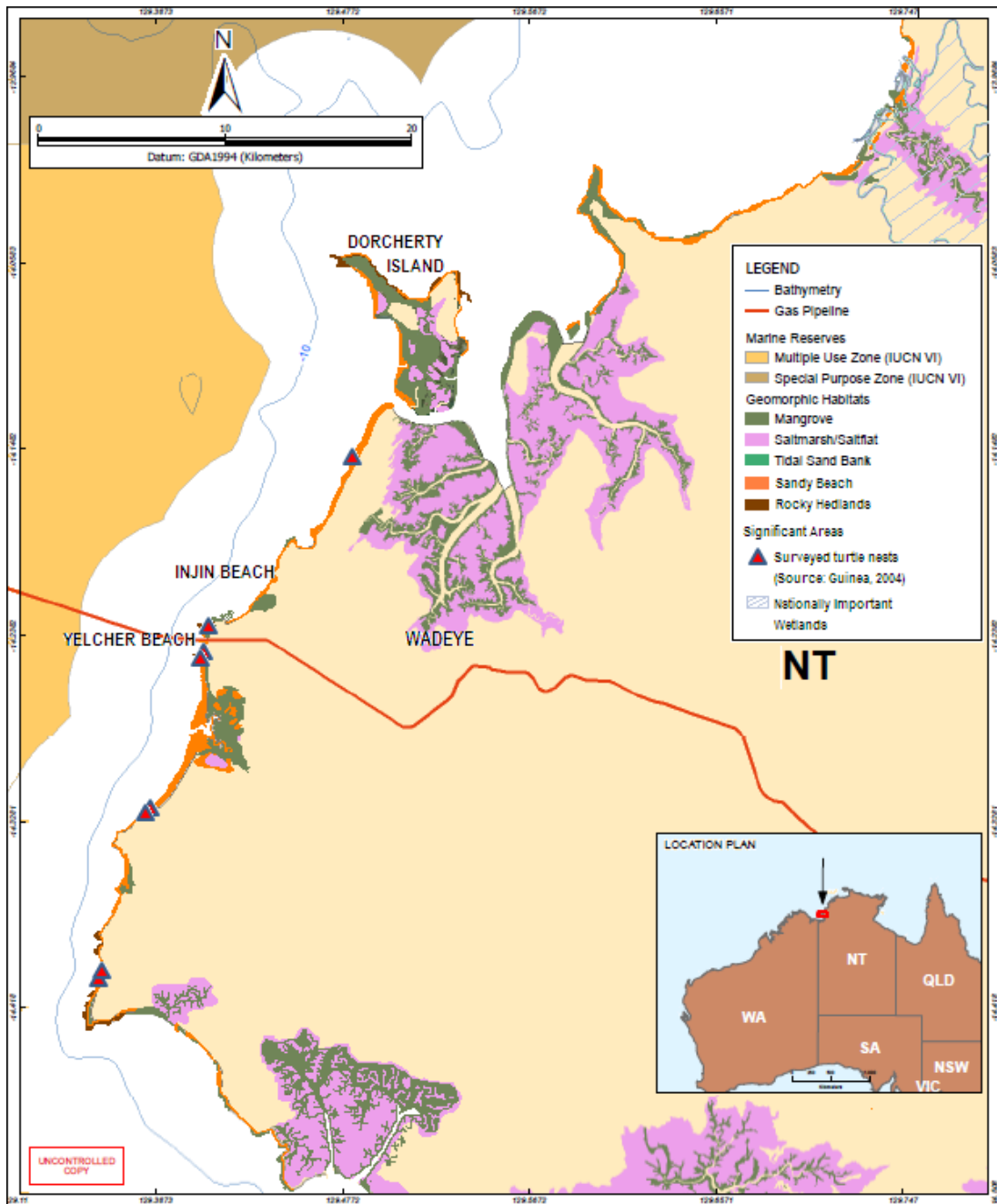



Figure 1.6: Shoreline to the south and east of the Operational Area (Woodside, 2004)

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1.2.3.2 Kimberly Coastline

Around 5,102km of the Kimberly coastline was surveyed, analysed and mapped after the Montara spill to provide spatial and quantitative characterisation of vulnerable coastal ecological features. Mangroves, the most vulnerable coastal habitat present, grow along 63% of the surveyed shoreline, covering over 3,200km (Table 1.2). Saltmarsh occurs on more than 1,200km of coastline or 23.8% survey region and the coastline is rocky for 2,763km of shoreline (DPAW, 2014).

Marine megafauna sightings were also common along almost the entire shoreline during the aerial survey. The greatest concentrations of megafauna (~60% observed) were recorded in the area from Cape Londonderry to Admiralty Gulf. The majority (67%) of megafauna sightings were of marine turtles (DPAW, 2014).

Table 1.2: Summary of coastal characteristics from Darwin (NT) to Broome (WA). Category percentages do not add to 100 as categories overlap in some locations (DPAW, 2014)

	Feature	km	% of shoreline
Physical characteristics	Rocky	2,762.8	54.2
	Beach	1,663.7	32.6
	Flat	2,185.5	42.8
	Dune	1,536.9	30.1
	Other wetland	15.9	0.3
Vegetated habitat type	Mangrove	3,214.1	63.0
	Saltmarsh	1,215.4	23.8
	Fringing coral	350.9	6.9
	Seagrass verge	11.5	0.2
	Coastal woodland	3,886.6	76.2
State of erosion and deposition	Deposition	548.8	10.8
	Erosion	544.7	10.7
	Stable	3,576.7	70.1
Tidal wetland	Mangrove	3,214.1	63.0
	Saltmarsh	1,215.4	23.8
	Sand and mudflats	1,379.2	27.0
	Salt flat	1,396.8	27.4
Other	Human modified	169.8	3.3
	Water reach	514.2	10.1

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1.2.4 Plankton

Plankton is divided into two categories: phytoplankton (microscopic plants) and zooplankton (animal larvae). Phytoplanktonic algae support the entire primary production of the oceans and range in size from 0.2 to 200 µm. Zooplankton are small, mostly microscopic animals that drift with the ocean currents, and it has been estimated that 80% of the zooplankton in waters off the Australian continental shelf and shelf margin are the larval stages of fauna that normally live on the seabed. A common feature of plankton populations is the high degree of temporal and spatial variability. Phytoplankton, in tropical regions, had marked seasonal cycles, with higher concentrations occurring during the winter months (June-August) and low in summer months (December-March) (Schroeder *et al.*, 2009). Zooplankton that rely on them for food are subject to similar seasonality. Spatial distribution of plankton is patchy and uneven, both vertically and horizontally.

Phytoplankton species rapidly multiply in response to bursts of nutrient availability and are subsequently consumed by zooplankton that in turn are consumed by small pelagic fish and some whales. The spawn of commercial fish species (that comprise part of the zooplankton community) may be present in and around the Operational Area.

1.3 Threatened and Migratory Species and ecological communities

1.3.1 Marine Mammals

Threatened and migratory marine mammal species within the Operational Area and EMBA are listed and presented in Section 4.4 of the EP, along with identified BIAs.

Details on the species identified by the EPBC Act PMSTs for the Operational Area and EMBA are included in the sections below.


1.3.1.1 Sei Whale

Sei whales (*Balaenoptera borealis*) have been infrequently recorded in Australian waters (DCCEEW, 2022a). Sei whales are considered a cosmopolitan species, ranging from polar to tropical waters, but tend to be found more offshore than other species of large whales. The proportion of the global population in Australian waters is unknown as there are no estimates for sei whales in Australia (DCCEEW, 2022a). It is likely that threats affecting the global population of sei whales would also affect Australian populations (Horwood, 1987).

The National Conservation Values Atlas records no BIAs for this species (DCCEEW, 2020b). It is possible that individual sei whales may be present in low numbers within the northern part of the EMBA. Individuals are unlikely to be present in the Operational Area given the depths (20 to 50 m) and distance from known aggregation areas.

1.3.1.2 Blue Whale

Blue whale (*Balaenoptera musculus*) sightings in Australian waters are widespread, and it is likely that the whales occur around the continent at various times of the year. However, much of the Australian continental shelf and coastal waters have no particular significance to the whales and are used only for migration and opportunistic feeding.

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In Australia there are two recognised subspecies of blue whale; the Antarctic (*Balaenoptera musculus intermedia*) and the pygmy blue whale (*B.m. breviceauda*). Blue whales have a worldwide distribution and move between low altitudes for breeding and high altitudes for feeding. Pygmy blue whales are thought to migrate from Australian feeding grounds to breed in grounds over Indonesia, whilst the Antarctic blue whale winter migration is south to lower latitudes of the Pacific and Indian ocean (DCCEEW, 2022b). Therefore, the Pygmy blue whale is more likely to be encountered in the JBG.

Tracking of pygmy blue whales suggest that they migrate north from the Perth Canyon (feeding area) in March / April, reaching Indonesia by June where they remain until at least September. Southern migration occurs December as the animals migrate back to the Perth Canyon arriving in March / April. Migration is likely to follow the deep oceanic routes and a tagging study by Double *et al* (2014) identified that the shallowest waters occupied was approximately 1,300m.

Given a BIA has been identified within the EMBA it is likely that pygmy blue whales transit through the EMBA. Individuals are unlikely to be present in the Operational Area given the depths (20 to 50 m) and distance from known aggregation areas.

1.3.1.3 Fin Whale


Fin whale (*Balaenoptera physalus*) distribution in Australian waters is known primarily from stranding events and whaling records. Fin whales have been observed in South Australian waters between November and May but the presence in NT water is unknown (DCCEEW, 2022c).

Reliable estimates of fin whale population size in Australia are not currently possible. The proportion of time that this species spends at the surface varies considerably depending on their behaviour and local ecology (e.g. whether they are traveling or foraging; depth at which prey occurs): thus, extrapolation of accurate population estimates are difficult. There are no known mating or calving areas in Australian waters (DCCEEW, 2022c).

There are no known mating or calving areas in Australian waters and no BIAs for the fin whale are currently identified. However, given their known distribution and movements, it is possible that individual fin whales may pass through the EMBA in low numbers. Individuals are unlikely to be present in the Operational Area given the depths (20 to 50 m) and distance from known aggregation areas

1.3.1.4 Humpback Whale

The humpback whale (*Megaptera novaeangliae*) is the most commonly sighted whale in north WA waters. Major breeding areas have been identified for the western Australian population in the Kimberley region and particularly between Lacepede Islands (16.8° S) and Camden Sound (15.38° S) (Jenner *et al.*, 2001). Camden sound appears to be the northern most limit for the majority of west coast whales and is considered to be an important breeding area (Jenner *et al.* 2001). Double and colleagues (2010) found that satellite tagged whales in the area of Camden sound tended to move in an inconsistent direction, which suggests this area is used for breeding. The species migrates annually from feeding grounds in Antarctic waters during the summer months to their breeding and calving grounds along the west coast (DCCEEW, 2022d).

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Studies conducted by Jenner *et al.* (2001) indicate that during the southern migration most humpback whales, particularly cow/calf pairs, stay closer to the coast than during the northern migration. On their southern migration, cow-calf pairs frequently rest in aggregation areas along the Western Australian coastline. Important resting areas during the southern migration include Shark Bay, Exmouth Gulf, and the southern Kimberley region (DCCEEW, 2022d).

A migration BIA is within the EMBA, 750km south-west of the Operational Area. It is possible that individual whales may pass through the EMBA in low numbers. Individuals are unlikely to be present in the Operational Area given the distance from known migration routes.

1.3.1.5 Bryde's Whale

Bryde's whales (*Balaenoptera edeni*) migrate seasonally in temperate to tropical waters, in depths ranging from 200m to 1,000m although they more commonly migrate at depths nearer to 200m (DCCEEW, 2022e). Bryde's whales have been sighted in all areas of Australia except NT, with the majority recorded in South Australia, however no specific breeding or feeding grounds have been found within Australia (DCCEEW, 2022e).

It is possible the coastal form of Bryde's whales may also occasionally transit through the EMBA; however, they are not expected to be present in significant numbers. Individuals are unlikely to be present in the Operational Area given the distance from known aggregation areas.


1.3.1.6 Killer Whale

Killer whales (*Orcinus orca*) prefer deep, cold waters (Bannister *et al.*, 1996) and have been recorded along continental slopes (DCCEEW, 2022f). The species is found throughout the world's oceans and has been recorded in all areas of Australia, however no important breeding, nesting or resting grounds have been identified in Australia (DCCEEW, 2022f).

No BIAs have been identified for this species within the EMBA, although the species may be present in low numbers. Individuals are unlikely to be present in the Operational Area given the distance from known aggregation areas.

1.3.1.7 Indo-Pacific humpback dolphin

In Australia, Indo-Pacific humpback dolphins (*Sousa chinensis*) are known to occur along the northern coastline, extending to Exmouth Gulf on the west coast (25° S), and the Queensland/NSW border region on the east coast (34° S). A recent helicopter survey along the eastern half of the NT found Australian humpback dolphins were sparsely distributed across this region (DCCEEW, 2022g). Indo-Pacific humpback dolphins inhabit shallow coastal, estuarine, and occasionally riverine habitats, in tropical and subtropical regions. Most studies to date indicate that Australian humpback dolphins occur mostly close to the coast (within 20km from land) and in relatively sheltered offshore waters near reefs or islands, but they have been seen 55km offshore in shallow water (DCCEEW, 2022g).

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Given their preference for shallow coastal habitats, the species is expected to transit the shallow water sections of the EMBA only (e.g. coastlines). The species may occasionally transit the Operational Area.

1.3.1.8 Spotted bottlenose dolphin

Spotted bottlenose dolphins (*Tursiops aduncus*) occur in four main regions around Australia, being the eastern Indian ocean, the Tasman sea, the Coral sea and the Arafura/Timor Sea (DCCEEW, 2022h). The species are generally distributed in the tropical waters of the North-West Marine Region, along the Pilbara and Kimberley coasts and inhabiting shallow coastal waters along the continental shelf (DCCEEW, 2022h).

Given the species' use of relatively deeper waters and the potential for long-range migratory movements, it is likely this species will occasionally transit the Operational Area and EMBA.

1.3.1.9 Dugong


Dugongs are not expected to be common inhabitants of the JBG. The dugong (*Dugong dugon*) is listed as vulnerable under the IUCN. Dugongs are patchily distributed throughout tropical and subtropical waters of the Indian and Pacific Oceans, with major concentrations of dugongs coinciding with sizeable seagrass beds, on which they feed. The lack of seagrass in JBG is expected to limit the distribution of dugongs in the region. Specific areas supporting dugongs in the Northern Territory include: the northern coast (Daly River to Millingimbi, including Melville Island and Vernon Islands and the Darwin region); and the Gulf of Carpentaria, including the Sir Edward Pellew Group of Islands, the mouth of the Limmen Bight River, and the waters between Blue Mud Bay and Groote Eylandt. Specific areas supporting dugongs along the Queensland coast of the Gulf of Carpentaria include: the Wellesley Islands (Mornington and Bentick Islands), the mouth of the Norman River, and Albatross Bay. Within the Gulf of Carpentaria, the Sir Edward Pellew and Wellesley Islands are the most important dugong habitats (DCCEEW, 2022i).

Observations from aerial surveys in the NT focused on dugong populations in the Gulf of Carpentaria and in the northern parts of the NT, such as the Tiwi Islands and Coburg Peninsula. No surveys have been undertaken in the JBG. However, seagrass habitat is limited (Woodside, 2004) and the JBG is therefore not expected to provide a significant habitat for dugong.

1.3.1.10 Australian Snubfin Dolphin

Australian snubfin dolphins (*Orcaella heinsohni*) occur in the offshore waters of northern Australia, ranging from Broome to Brisbane River (Parra et al. 2002a). The species has been recorded up to 23km offshore. Sightings indicate that Australian snubfin dolphins occur mostly in protected shallow coast waters, and near river and creek mouths (Parra, 2006; Parra & Corkeron, 2001; Parra et al., 2002a).

Given their preference for shallow coastal habitats, the species is expected to transit the shallow water sections of the EMBA only (e.g. coastlines) and are unlikely to be present in the Operational area in significant numbers.

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1.3.2 Marine Reptiles

Threatened and migratory marine reptile species within the Operational Area and EMBA are listed in Section 4.4 of the EP, along with identified BIAs.

Details on the species identified by the EPBC Act PMST for the Operational Area and EMBA are included in the sections below.

1.3.2.1 Green turtle

Green turtles (*Chelonia mydas*) are generally found in tropical and subtropical waters at around 20°C although the species can be present in temperate waters. Green turtles are known to nest, forage and migrate across tropical northern Australia, with significant nesting grounds including Dampier Archipelago, Ashmore Reef and the Lacepede Islands (DCCEEW, 2022j).

Green turtles are common in the North-west Marine Region, with the JBG AMP identified as an important foraging area for the species (DCCEEW, 2022j). Additionally, the Operational Area overlaps with a number of green turtles BIAs and Habitat Critical to the Survival of Marine Turtles (refer to Section 4.4 of the EP). Green turtles are likely to forage within the EMBA and may forage out to the Operational Area, albeit in low numbers.


1.3.2.2 Flatback Turtle

A significant flatback turtle nesting area occurs on the north side of Cape Domett, WA (DCCEEW, 2022k) and turtle nesting is also reported on Pelican Island and Lacrosse Island, 75km to the south of the Operational Area. In western Northern Territory, some nesting occurs year-round though nesting density reaches a peak in July. This dry season peak of nesting activity may be adaptive to protect the eggs from the high lethal sand temperatures that occur in the wet season (DCCEEW, 2022k).

A survey was undertaken to address the lack of data on turtle activity between Cape Hay to Pearce Point (including the shoreline of the eastern-most extent of the EMBA). The complete findings of this study are contained in the Blacktip Environmental Impact Statement (EIS) (Woodside, 2004). The results indicated that there are low levels of flatback turtle activity in the area of Northern Yelcherr Beach and Injin Beach to the north. Two flatback nests and a track of a flatback that came ashore but did not lay at Northern Yelcherr Beach were found during the survey. This suggests that there could be some tens of nests laid on this beach per year by possibly less than 20 individuals. Immediately south, on Yelcherr Beach, there was no sign of sea turtle nesting. Injin Beach, Northern Yelcherr Beach and Yelcherr Beach overlap the eastern-most extent of the EMBA.

The coastline from Cape Hay to Pearce Point (within the eastern-most extent of the EMBA) includes many sandy beaches, and turtles have been reported to utilise all of these beaches for nesting (LDM, 1994).

Turtle monitoring was undertaken during the construction of the Blacktip facilities in 2009. This confirmed a maximum of 12 nests being laid on Yelcherr Beach per season.

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Other nesting areas include Cape Domett, Lacrosse Island and Pelican Island to the south-most extent of the EMBA, which appears to be one of the largest known nesting populations of this species, with an estimated yearly population in the order of several thousand turtles (Whiting *et al.*, 2008).

Flatback turtles nest at Cape Domett throughout the year, with peak occurring August and September (Whiting *et al.*, 2008). Flatback turtles are likely to forage within the EMBA. The species are unlikely to be present in the Operational Area in significant numbers. Studies define suitable internesting habitat as areas of water depths less than 16 m, which are typically within 5 to 10km of coastlines (Whitlock *et al.*, 2016). Water depths in the Operational Area suggest they are unlikely to comprise important habitat for the turtles during any life history phase.

1.3.2.3 Hawksbill Turtle

Hawksbill turtles (*Eretmochelys imbricate*) have a large migratory pattern and are found in both tropical and temperate waters where they are known to forage in coral and rocky reef habitats. They feed on plankton in the open ocean and then on sponges, hydroids, cephalopods, gastropods, jellyfish, seagrass and algae as an adult (DCCEEW, 2022I). The North-west Marine Region supports one of the largest nesting populations of hawksbill turtles in the world, with significant rookeries occurring at Varanus and Rosemary Islands, outside the EMBA (Pendoley, 2005). The closest nesting grounds to the EMBA is located to the approximately 350km north-east at Coburg Peninsula. Although hawksbill turtles are known to nest any time of the year, the peak nesting period in Northern Australia occurs between July and October (DCCEEW, 2022I).


Hawksbills are likely to forage within the EMBA and may forage to the Operational Area, albeit in low numbers.

1.3.2.4 Loggerhead Turtle

Loggerhead turtles (*Caretta caretta*) have a global distribution throughout tropical, sub-tropical and temperate waters (Marquez, 1990). In Australia, they generally occur around coral and rocky reefs, seagrass beds and muddy bays throughout Eastern, Northern and Western Australia (DCCEEW, 2022m). Known nesting areas in WA extend from Shark Bay to the North West Cape, with the closest nesting ground to the EMBA located at the Dampier Archipelago (DCCEEW, 2022m), southwest of the EMBA. Beagle Bay south of the Dampier Peninsula is reported as a important nesting area by the Nyul – Nyul Traditional Owners.

Loggerhead turtles show fidelity to both their foraging and breeding areas and can migrate over 2,600km between the two (DCCEEW, 2022m). The WA stock forages from Shark Bay through to Arnhem Land in the NT (DCCEEW, 2022m). Loggerhead turtles are known to forage around the pinnacles of the JBG and the carbonate bank and terrace of the Sahul Shelf KEF (which overlaps the EMBA). Beagle Bay

The EMBA overlaps with a foraging BIA for the loggerhead turtle, therefore loggerhead turtles are likely to occur within the EMBA. The species may forage to the Operational Area, albeit in low numbers.

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1.3.2.5 Leatherback turtle

The leatherback turtle (*Dermochelys coriacea*) has the widest distribution of any marine turtle species, and can be found in tropical, subtropical and temperate waters throughout the world (Marquez, 1990). Leatherback turtles are relatively rare in northern Australian waters. The species is more commonly observed in southern coastal waters around Australia.

No major breeding sites of leatherback turtles have been recorded in Australia (Limpus, 2009); however, scattered nesting occurs in the Northern Territory, along the coast of Arnhem Land. For example, low numbers of nesting females have been recorded at Cobourg Peninsula in north-west Arnhem Land (Chatto & Baker, 2008), with breeding occurring mostly during December and January.

Nesting occurs on tropical beaches and subtropical beaches (Marquez 1990) but 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 & McLachlin, 1994). However, leatherback turtles are the most pelagic of all marine turtles, and make long migrations between foraging areas and nesting beaches (DCCEEW, 2022n).


1.3.2.6 Olive ridley turtle

The olive ridley turtle (*Lepidochelys olivacea*) is the smallest Australian marine turtle and is the most numerous of all marine turtles. Nesting aggregations occur worldwide, although no large rookeries have been identified in WA and no major breeding areas have been recorded in Australia (DCCEEW, 2022o). The species forages on shallow benthic habitats and is commonly found in soft-bottomed habitats around the northern parts of Australia (DCCEEW, 2022o). Nesting occurs all year round in Northern Australia and important foraging areas are found within the along the JBG shoreline (DCCEEW, 2022o). The Operational Area overlaps with the olive ridley turtle foraging BIA (Figure 4.6 of the EP).

Olive ridley turtles may forage within the EMBA, as the waters present a potential feeding area. The species are unlikely to be present in the Operational Area in significant numbers. Studies define suitable internesting habitat as areas of water depths less than 16 m, which are typically within 5 to 10km of coastlines (Whittock et al., 2016). Water depths in the Operational Area (typically 20 - 40m depth) suggest they are unlikely to comprise important habitat for the turtles during any life history phase.

1.3.2.7 Salt-water crocodile

The salt-water crocodile (*Crocodylus porosus*) is distributed throughout northern Australian coastal waters and floodplains, lower reaches of rivers and in swamps and marshes and can be found up to 150km from the coast (Webb et al., 1987). The species is found in most major river systems within the Kimberley region in WA, including the Ord, Durack Pentecost and Forrest rivers which enter the JBG via the Cambridge Gulf estuary (DCCEEW, 2022p). This species nests in elevated isolated freshwater swamps (DCCEEW, 2022p).

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It is unlikely that saltwater crocodile will be present in the EMBA or Operational Area, given their preference for river system habitats.

1.3.2.8 Short-nosed seasnake

The short-nosed seasnake is endemic to Western Australia. The species prefers to inhabit reef flats or shallow waters along the outer reef edge in water depths to 10m (Cogger 2000). Individuals have been observed in daylight hours, resting beneath small coral overhangs or coral heads in water 1 – 2m deep (McCosker, 1975). Guinea and Whiting (2005) reported that some short-nosed seasnakes may move up to 50m away from the reef flat.

The short-nosed seasnake has been recorded from the Exmouth Gulf, Western Australia (Storr *et al.*, 2002) to the reefs of the Sahul Shelf, which lie in the eastern Indian Ocean. As there are no reefs or shallow waters in the Operational Area it is extremely unlikely the short nosed seasnake would be present. However, seasnakes may occur within the EMBA in shallow waters and reefs.

1.3.3 Fish, Sharks and Rays

Threatened and migratory fish, shark and ray species within the Operational Area and EMBA are listed in Section 4.4 of the EP, along with identified BIAs.

Details on the species identified by the EPBC Act PMST for the Operational Area and EMBA are included in the sections below.

1.3.4 Whale Shark


The whale shark (*Rhincodon typus*) are normally oceanic and cosmopolitan in their distribution. Whale sharks are widely distributed in tropical to warm temperate oceanic and coastal waters. Their known aggregation sites in Northern Australia are at Ningaloo Reef, outside the EMBA. The species filter feeds in areas of upwelling, with surface waters between 25-35 °C, preferably with upwelling waters of 17 °C or less (Norman, 1999). Offshore sightings are not uncommon; however, they are more commonly observed in coastal waters sitting high in the water column. Wilson et al. (2006) found that whale sharks can travel up to 1,500km northeast after departing Ningaloo Reef.

It is unlikely that the species will be present in the Operational Area or EMBA in significant numbers.

1.3.4.1 Great White Shark

The great white shark (*Carcharodon carcharias*) is a close relative of the Mako shark and porbeagle shark. The species is long living reaching ages of 40 to 50 years (Bruce, 2006). The species has relatively slow development and low reproductive rates and with gestation periods, estimated at up to 18 months. These characteristics imply a low reproductive potential which has implications for the vulnerability of the species (DCCEEW, 2022q). Great white sharks occur worldwide in coastal temperate and subtropical regions but can also occur in tropical regions.

The Operational Area or EMBA do not overlap any BIA for the great white shark, however individuals may pass through the area infrequently.

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1.3.4.2 Northern River Shark

The Northern river shark (*Glyphis garricki*) is so far known to only occur in the Adelaide and Alligator River systems in the Northern Territory (NT) of Australia. This species is probably restricted to the relatively shallow, upper freshwater to brackish (0-26 ppt) reaches of the Adelaide and Alligator River systems of the NT. Despite considerable fishing and collecting activity in the NT, no specimens have ever been found in coastal marine habitats.

The species is only likely to occur in certain nearshore areas of the EMBA and is unlikely to occur in the Operational Area given its preference for estuaries and river mouths.

1.3.4.3 Shortfin Mako

The shortfin mako shark (*Isurus oxyrinchus*) is an active, offshore littoral and epipelagic species, found in tropical and warm-temperate seas from the surface down to at least 500 m, seldom occurring where water temperature is below 16°C (Cailliet *et al.*, 2009). This species has been occasionally found close inshore where the continental shelf is narrow, and may occur from 20-50° between Australia and Chile, and to almost 60° south east of New Zealand (Cailliet *et al.*, 2009).

Due to the broad distribution of this species, they are unlikely to be found in significant numbers in the Operational Area or EMBA.

1.3.4.4 Longfin Mako

The longfin mako shark (*Isurus paucus*) is an oceanic tropical species and is only rarely encountered globally (Reardon *et al.*, 2006). This species is believed to be cosmopolitan in tropical and warm temperate waters and common in the Western Atlantic and possibly the Central Pacific. However, its distribution in Australian waters is poorly known, with only sporadic sightings (Reardon *et al.*, 2006). This is in part due to confusion with the more common shortfin mako shark (Compagno, 2001).


Due to the wide distribution range of the species and the absence of any recognised important habitat in the EMBA, the longfin mako shark is not expected to occur in the Operational Area or EMBA in significant numbers.

1.3.4.5 Freshwater Sawfish

The freshwater sawfish (*Pristis pristis*) appears to be confined to freshwater drainages and the upper reaches of estuaries in northern Australian waters including the Ord, Daly and Victoria rivers (Woodside, 2004a).

The PMST species profile indicates that the species occur in all large rivers of northern Australia from the Fitzroy River, Western Australia, to the western side of Cape York Peninsula, Queensland. Juveniles and sub-adult Freshwater Sawfish predominantly occur in rivers and estuaries, while large mature fish tend to occur more often in coastal and offshore waters up to 25m depth (Giles *et al.*, 2006)

It is unlikely that the species will be present in the Operational Area or EMBA in significant numbers. Any individuals present will likely be limited to larger, more mature fish.

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1.3.4.6 Dwarf Sawfish

The distribution of the dwarf sawfish (*Pristis clavata*) is considered to extend north from Cairns around the Cape York Peninsula in Queensland, across northern Australian waters to the Pilbara coast in WA (DCCEEW, 2022r). The dwarf sawfish usually inhabits shallow (2–3m) coastal waters and estuarine habitats (DCCEEW, 2022r).

It is unlikely that the species will be present in the Operational Area or EMBA, particularly given its preference to coastal waters and estuarine habitats.

1.3.4.7 Green Sawfish

Green sawfish (*Pristis zijsron*) have been recorded in the coastal waters off Broome in WA (DCCEEW, 2022s), however there is little known about their distribution in the NT. The species prefer shallow water with muddy bottom habitats, usually within inshore marine waters, including estuaries and river mouths (DCCEEW, 2022s). It is unlikely that the species will be present in the Operational Area or EMBA, particularly given its preference to estuaries and river mouths.

1.3.4.8 Narrow Sawfish


The narrow sawfish (*Anoxypristis cuspidata*) occurs from the northern Persian Gulf to Australia and north to Japan, inhabiting estuarine waters and nearshore waters up to depths of 100m (D’Anastasi *et al.*, 2013). While population declines have been observed globally, the narrow sawfish is not currently listed as threatened. Northern Western Australia, the NT, the Gulf of Carpentaria and Queensland east coast waters comprise the most ecologically functional populations worldwide, however these populations are suspected to have declined significantly from historic levels (D’Anastasi *et al.*, 2013).

The species may occur within the nearshore estuarine environments of the EMBA and is unlikely to occur in the Operational Area given its preference for estuarine environments.

1.3.4.9 Giant Manta Ray and Reef Manta Ray

Manta rays consist of two individual species; the giant manta ray (*mobula birostris*) and the reef, or coastal manta ray (*mobula alfredi*). The giant manta ray is the largest ray species in the world and is found in tropical marine waters worldwide and occasionally in temperate regions (Marshall *et al.*, 2018a). The giant manta ray spends time on the surface, sometimes even jumping out of the water, and has also been observed diving to depths of over 1,000 metres (Marshall *et al.*, 2018). The species is a seasonal visitor to coastal and offshore sites and is commonly recorded on productive coastlines with regular upwellings. Giant manta rays also visit shallow reefs to be cleaned by ‘cleaner fishes’ and to feed.

Giant manta rays aggregate at Ningaloo Reef, in particular between March and April, outside of the EMBA. Reef manta rays usually occur closer to shore; therefore they may occur in the nearshore areas of the EMBA and infrequently transit through the Operational Area.

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Reef manta rays are commonly sighted inshore, but also frequent offshore coral reefs, rocky reefs and seamounts. Sightings suggest the species is more resident to tropical waters and may have smaller home ranges and shorter seasonal migrations than the giant manta ray (Marshall *et al.*, 2018b). Individuals in Australia have been recorded in offshore waters up to 190km from the coast and making seasonal migrations of several hundred kilometres between aggregation sites (Marshall *et al.*, 2018b).

1.3.5 Speartooth Shark

The Speartooth Shark (*Glyphis glyphis*) has so far only been recorded in tidal rivers and estuaries within the Northern Territory and Queensland. To date, the Speartooth Shark has only been captured in tidal rivers and estuaries indicating that large tropical river systems appear to be the primary habitat for this shark. It is inferred that this species may be largely restricted to low salinity environments such as freshwater and brackish areas of rivers (DCCEEW, 2022t).

The species may occur within the nearshore estuarine environments of the EMBA and is unlikely to occur in the Operational Area given its preference for estuarine environments.


1.3.6 Seabirds/Shorebirds

Threatened and migratory seabird and shorebird species within the Operational Area and EMBA are listed in Section 4.4 of the EP, along with identified BIAs.

Details on the species identified by the EPBC Act PMST for the Operational Area and EMBA are included in the sections below.

1.3.6.1 Red Knot

Distribution of the red knot (*Calidris canutus*) in Western Australia is widespread, including the coast from Ningaloo and Barrow Island to the south-west Kimberly Division. Migration occurs to high northern latitudes during the northern hemisphere summer to breeding grounds where food is readily abundant, then southward to escape severe winter conditions under which energy demands are high and prey is scarce. Both Australia and New Zealand host significant populations of red knots during the non-breeding period (Bamford *et al.*, 2008). Important sites for the red knot in Western Australia include Eighty Mile Bay (population of 80,700) and Roebuck Bay (11,200) (Bamford *et al.*, 2008) located over at the furthest south-western extent of the EMBA. Similar to other migratory shorebirds, the red knot frequents intertidal sands, mudflats and coastal wetlands. As these habitats are not present within the Operational Area, occurrence of the species within the area is unlikely outside of brief migratory transit. However, the red knot may be present in these habitats within coastal areas of the EMBA during the non-breeding period.

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1.3.6.2 Eastern Curlew

The Eastern Curlew (*Numenius madagascariensis*) is Australia's largest shorebird. It is a long-haul flyer and easily distinguished by its long, downwards curving bill. The Eastern Curlew breeds in the Northern Hemisphere and arrives in Australia in August to forage for crabs and molluscs in intertidal mudflats (DCCEEW, 2015). The species occurs within Western Australia at Barrow Island, the Damper Archipelago, through the Kimberley and along the NT coasts (DCCEEW, 2015). Eastern Curlews may transit through the Operational Area and are likely to occur within coastal areas of the EMBA.

1.3.6.3 Fork-tailed Swift

The fork-tailed swift (*Apus pacificus*) is native to over 30 countries and occurs in all Australian states and territories outside of breeding periods. The species is widely distributed in Western Australia from coastal and subcoastal areas between Augusta and Carnarvon (including islands), to the Pilbara and Kimberly regions, the north and north-west Gascoyne region, along the south coast and within Timor Sea (Higgins, 1999). In the NT there are widespread but scattered records of the species in the north (Higgins, 1999).


The fork-tailed swift leaves breeding grounds in Siberia in August-September for warmer climactic conditions, with some populations arriving in Western Australia around October-November. The species is typically present in the Pilbara region from September to late April when they depart northwards (Higgins, 1999). Although almost exclusively aerial, including roosting, the species mostly occurs over inland plains, cliffs, beaches and dry/open habitats, foraging aerially for insects (Higgins, 1999). There is currently no BIA for the fork-tailed swift, however they are likely to be present within the Operational Area and EMBA, particularly near land and during migratory periods.

1.3.6.4 Streaked Shearwater

The streaked shearwater (*Calonectris leucomelas*) is distributed throughout the western Pacific, breeding on islands off the coast of China, North Korea, South Korea and at the coast or offshore islands of Japan and Russia (del Hoyo *et al.*, 1992). Breeding occurs during March in colonies, typically within burrows on forested hills. During the northern hemisphere winter, the species migrates south to the coasts of Australia, New Guinea, the Philippines, Vietnam, Sri Lanka and southern India (del Hoyo *et al.*, 1992). Foraging occurs over pelagic and inshore waters, from which the species seizes food from just below the surface (del Hoyo *et al.*, 1992). There is currently no BIA for the streaked shearwater. However, it is likely to occur within the Operational Area and EMBA during non-breeding periods.

1.3.6.5 Lesser Frigatebird

The lesser frigatebird (*Fregata ariel*) is native to numerous countries between latitudes 30° N and 20° S, with significant breeding populations found in tropical waters of the Indian and Pacific oceans (del Hoyo *et al.*, 1992). Individuals disperse throughout tropical seas during non-breeding periods, foraging in marine waters for fish and squid. The species' preferred breeding habitat is on remote tropical and sub-tropical islands, within bushes and mangroves or on bare ground (del Hoyo *et al.*, 1992).

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1.3.6.6 Common Sandpiper

The common sandpiper (*Actitis hypoleucos*) has a wide breeding distribution, ranging from eastern Russia to western Europe, and is found throughout Australia, south and south east Asia and Africa (except near the equator) during non-breeding periods (Bamford *et al.*, 2008). Breeding occurs during May-June, with southward migration between mid-July and August until a return to breeding grounds around April (del Hoyo *et al.*, 1996). During non-breeding periods, the species inhabits inland wetland and coastal areas, such as estuaries, streams, pools, tidal creeks and freshwater seeps on coastal shores, but typically avoids large coastal mudflats (del Hoyo *et al.*, 1996). The common sandpiper is unlikely to occur within the operational area except during migratory movements but may occur during non-breeding periods at wetland and coastal areas within the EMBA. Individuals may transit the Operational Area

1.3.6.7 Roseate Tern


In Western Australia, the roseate tern (*Sterna dougallii*) has been recorded north from Mandurah to around Eighty Mile Beach, in the Pilbara region, and occurs in coastal and marine areas in subtropical and tropical seas (Higgins & Davies, 1996). Records of the species are scattered along the north coast of the NT, mainly from Darwin to Gove Peninsula, and at North Peron Island (Higgins & Davies, 1996). Breeding occurs in two quite distinct periods, with peak months for laying April to November. At some sites, breeding occurs during both late spring-summer and late autumn-winter (Higgins & Davies, 1996). Colonies may be resident or dispersive. The species inhabits rocky and sandy beaches, coral reefs, sand cays and offshore islands. They usually roost or in the intertidal zone on islands, including on the upper sections of beaches, above the high-water mark (Higgins & Davies, 1996). The EMBA overlaps with the breeding BIA for the Roseate Tern; the species is also likely to occur within the EMBA, particularly in coastal areas. Individuals may transit the Operational Area.

1.3.6.8 Great Knot

The Great Knot (*Calidris tenuirostris*) has been recorded around the entirety of the Australian coast, with a few scattered records inland. It is now absent from some sites along the south coast where it used to be a regular visitor. The greatest numbers are found in northern Australia; where the species is common on the coasts of the Pilbara and Kimberley, from the Dampier Archipelago to the Northern Territory border, and in the Northern Territory from Darwin and Melville Island, through Arnhem Land to the south-east Gulf of Carpentaria. In Australasia, the species typically prefers sheltered coastal habitats, with large intertidal mudflats or sandflats. This includes inlets, bays, harbours, estuaries and lagoons. They are occasionally found on exposed reefs or rock platforms, shorelines with mangrove vegetation, ponds in saltworks, at swamps near the coast, saltlakes and non-tidal lagoons. Typically, the Great Knot roosts in large groups in open areas, often at the waters edge or in shallow water close to feeding grounds (DCCEEW, 2022u). Individuals may transit the Operational Area

1.3.6.9 Lesser Sand Plover

Within Australia, the Lesser Sand-Plover (Lesser Sand Plover) is widespread in coastal regions, and has been recorded in all states. The internationally important sites for the species closest to the EMBA include Roebuck Bay, Broome, and the Darwin area. The

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species roosts and feed around beach areas and occasionally forages on coral reefs, and roosts around beach areas and breeding occurs outside of Australia (DCCEEW, 2022v). Individuals may transit the Operational Area.

1.3.6.10 Abbott's Booby

The Abbott's booby (*Papasula abbotti*) spends most of its time at sea and traverse large distances, but needs to come ashore to breed. Currently, Abbott's Booby is only known to breed on Christmas Island (Stokes 1988) and to forage in the waters surrounding the island (DCCEEW, 2022w). Individuals may transit the Operational Area.

1.4 Protected and Significant Areas

There are a number of key sensitive areas that overlap the Operational Area and EMBA. These are summarised in Table 4.10 of the EP and described further below.

1.4.1 Australian Marine Parks

A portion of the Blacktip Gas Export Pipeline (GEP) lies within the Joseph Bonaparte Gulf AMP multiple use zone. The Blacktip Condensate Export Pipeline (CEP) in Commonwealth waters lies entirely in the AMP. The Joseph Bonaparte Gulf AMP was established after the construction of the Blacktip offshore facilities.

As described in Section 4.5.1 of the EP, the EMBA overlaps with the Joseph Bonaparte Gulf AMP, Kimberley AMP, Eighty Mile Beach AMP and Oceanic Shoals AMP.

1.4.1.1 Joseph Bonaparte Gulf Marine Park


A summary of characteristics of the JBG AMP is presented in Table 1.3. The JBG AMP is approximately 50km east of the WHP. A portion of the Blacktip GEP lies within the Joseph Bonaparte Gulf AMP multiple use zone. The CEP and SPM are also in the AMP.

Table 1.3: Summary of Characteristics of the Joseph Bonaparte Gulf AMP (DNP, 2018a)

Name	Joseph Bonaparte Gulf AMP
Area	8,597km ²
Depth range	Approximately 5–75m (Average 22 m)
Types of zoning	Multiple Use Zone (IUCN Category VI) – 6,346km ² Special Purpose Zone (IUCN Category VI) – 2,251km ²

Values are to inform the Director's decisions when authorising activities in Marine Parks. Activities will be assessed in relation to their impacts on and risk to values, to ensure activities are undertaken in a manner that minimises impacts to as small as reasonably practicable. The following values are applicable to the JBG AMP:

- Natural Values
- Cultural Values
- Heritage Values
- Socio-economic values.

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[Table 1.4](#) presents details of the value of the AMP.

Table 1.4: Summary of value of the Joseph Bonaparte Gulf AMP (DNP, 2018a)

Value	Summary
Natural Values	<p>Contains habitats, species and ecological communities associated with the Northwest Shelf Transition bioregion. It includes one key ecological feature: the carbonate bank and terrace system of the Sahul Shelf (valued as a unique seafloor feature with ecological properties of regional significance).</p> <p>Contains a number of prominent shallow seafloor features including an emergent reef system, shoals, and sand banks</p> <p>The key ecological feature in the Marine Park is the carbonate bank and terrace system of the Sahul Shelf—characterised by terraces, banks, channels and valleys supporting sponges, soft corals, sessile filter feeders, polychaetes and ascidians</p> <p>Supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. Biologically important areas within the Marine Park include foraging habitat for marine turtles and the Australian snubfin dolphin.</p>
Cultural Values	The Miriuwung, Gajerrong, Doolboong, Wardenybeng and Gija and Balangarra people have responsibilities for sea country in the Marine Park.
Heritage Values	No international, Commonwealth or national heritage listings apply to the Marine Park at commencement of this plan, however the Marine Park is adjacent to the West Kimberley National Heritage Place.
Socio-economic values.	Tourism, commercial fishing, mining, and recreation including fishing, are important activities in the Marine Park


1.4.1.2 Kimberley Marine Park

Characteristics of the Kimberley AMP are presented in [Table 1.5](#). The Kimberley AMP is approximately 220km to the west of the Operational Area.

Table 1.5: Characteristics of the Kimberley AMP (DPAW, 2016)

Name	Kimberley AMP
Area	74,469km ²
Depth range	Approximately 15-800 m
Types of zoning	<p>Multiple Use Zone (IUCN Category VI) – 66,563km²</p> <p>Habitat Protection Zone (IUCN Category IV) – 1,131km²</p> <p>Marine National Park Zone (IUCN Category II) – 6,775km²</p>

The Kimberley AMP is significant because it includes habitats, species and ecological communities associated with the Northwest Shelf Province, Northwest Shelf Transition and Timor Province. It includes two key ecological features: the ancient coastline at the 125m depth contour (an area of enhanced productivity and migratory pathway for cetaceans and pelagic marine species); and continental slope demersal fish communities (valued for high levels of endemism and diversity and the second richest area for demersal fish species in Australia) (DNP, 2018b).

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The following values are applicable to the Kimberly AMP:

- Natural Values
- Cultural Values
- Heritage Values
- Socio-economic values.

Table 1.6 presents details of the value of the AMP.

Table 1.6 Summary of value of the Kimberley AMP Marine Park (DNP, 2018b)


Value	Summary
Natural Values	<p>Important foraging areas for:</p> <ul style="list-style-type: none"> - migratory seabirds - migratory dugongs - the Australian snubfin dolphin, Indo-Pacific humpback dolphin and spotted bottlenose dolphin - marine turtles <p>Supports a range of species, including protected species listed as threatened, migratory, marine or cetacean under the EPBC Act. Biologically important areas within the Marine Park include breeding and foraging habitat for seabirds, internesting and nesting habitat for marine turtles, breeding, calving and foraging habitat for inshore dolphins, calving, migratory pathway and nursing habitat for humpback whales, migratory pathway for pygmy blue whales, foraging habitat for dugong and foraging habitat for whale sharks.</p> <p>Extent comprises a range of geological features including the continental shelf, slope, plateau, pinnacle, terrace, banks and shoals and valley seafloor</p> <p>Extent contains two key ecological features: the ancient coastline and continental slope demersal fish communities</p>
Cultural Values	The Wunambal Gaambera, Dambimangari, Mayala, Bardi Jawi and the Nyul Nyul people's sea country extends into the Kimberley Marine Park
Heritage Values	No International, Commonwealth or national heritage listings apply to the AMP, however the AMP is adjacent to the national heritage place of The West Kimberley.
Socio-economic values.	Tourism, commercial fishing, mining, recreation, including fishing, and traditional use are important activities in the AMP.

1.4.1.3 Eighty Mile Beach Marine Park

Characteristics of the Eighty Mile Beach AMP are presented Table 1.7. Eighty Mile Beach AMP is approximately 815km to the south-west of the Operational Area.

Table 1.7: Summary of Characteristics of the Eighty Mile Beach AMP (DNP, 2018b)

Name	Eighty Mile Beach AMP
Area	10,785km ²

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Depth range	less than 15m to 70 m
Types of zoning	Multiple Use Zone (IUCN Category VI) 10, 785km ²

Values are to inform the Director’s decisions when authorising activities in Marine Parks. Activities will be assessed in relation to their impacts on and risk to values, to ensure activities are undertaken in a manner that minimises impacts to as small as reasonably practicable. The following values are applicable to the Eighty Mile Beach AMP (DNP, 2018c):

- Natural Values
- Cultural Values
- Heritage Values
- Socio-economic values.

Table 1.8 presents details of the value of the AMP.


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Table 1.8: Summary of Value of the Eighty Mile Beach AMP (DNP, 2018b)

Value	Summary
Natural Values	<p>The Marine Park includes examples of ecosystems representative of the Northwest Shelf Province—a dynamic environment influenced by strong tides, cyclonic storms, long-period swells and internal tides. The bioregion includes diverse benthic and pelagic fish communities, and ancient coastline thought to be an important seafloor feature and migratory pathway for humpback whales. The Marine Park supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. Biologically important areas within the Marine Park include breeding, foraging and resting habitat for seabirds, interesting and nesting habitat for marine turtles, foraging, nursing and pupping habitat for sawfish and a migratory pathway for humpback whales.</p>
Cultural Values	<p>Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years.</p> <p>The sea country of the Nyangumarta, Karajarri and Ngarla people extends into Eighty Mile Beach Marine Park. Sea country is culturally significant and important to their identity. They have an unbroken, deep spiritual connection to their sea country, with traditional practices continuing today. Staple foods of living cultural value for the Nyangumarta, Karajarri and Ngarla people include saltwater fish, turtles, dugong, crabs and oysters. Access to sea country by families is important for cultural traditions, livelihoods and future socio-economic development opportunities.</p> <p>The native title holders for the Nyangumarta, Karajarri and Ngarla people are represented by the Karajarri Aboriginal Corporation, Nyangumarta Karajarri Aboriginal Corporation, Nyangumarta Warrarn Aboriginal Corporation, and Wanparta Aboriginal Corporation. These Prescribed Body Corporates represent traditional owners with native title over coastal area adjacent to the Marine Park and are the points of contact for their respective areas of responsibility for sea country in the Marine Park.</p> <p>The Kimberley Land Council and the Yamatji Marlpa Aboriginal Corporation are the Native Title Representative Bodies for Kimberley and Pilbara regions.</p>
Heritage Values	<p>No international, Commonwealth or national listings apply to the Marine Park</p> <p>The Marine Park contains three known shipwrecks listed under the Historic Shipwrecks Act 1976: Lorna Doone (wrecked in 1923), Nellie (wrecked in 1908), and Tifera (wrecked in 1923).</p>
Socio-economic values.	<p>Tourism, commercial fishing, pearling and recreation are important activities in the Marine Park</p>

1.4.1.4 Oceanic Shoals Marine Park

Characteristics of the Oceanic Shoals AMP are presented in Table 1.9. The Oceanic Shoals AMP is approximately 140km to the north of the Operational Area.


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Table 1.9: Summary of Characteristics of the Oceanic Shoals AMP (DNP, 2018a)

Name	Oceanic Shoals AMP
Area	71, 743km ²
Depth range	Approximately 15-500 m
Types of zoning	National Park Zone (IUCN Category II) 406km ² Habitat Protection Zone (IUCN Category IV) 6929km ² Multiple Use Zone (IUCN Category VI) 39,964km ² Special Purpose Zone (Trawl) (IUCN Category VI) 24,444km ²


Values are to inform the Director's decisions when authorising activities in Marine Parks. Activities will be assessed in relation to their impacts on and risk to values, to ensure activities are undertaken in a manner that minimises impacts to as small as reasonably practicable. The following values are applicable to the Oceanic Shoals AMP:

- Natural Values
- Cultural Values
- Heritage Values
- Socio-economic values.

Table 1.10 presents details of the value of the AMP.

Table 1.10: Summary of Value of the Oceanic Shoals AMP (DNP, 2018a)

Value	Summary
Natural Values	<p>The Marine Park includes examples of ecosystems representative of the Northwest Shelf Transition— a dynamic environment influenced by strong tidal currents, upwellings of nutrient-rich waters, and a range of prominent seafloor features. The pinnacles, carbonate banks and shoals are sites of enhanced biological productivity.</p> <p>Key ecological features of the Marine Park are:</p> <ul style="list-style-type: none"> – carbonate bank and terrace systems of the Van Diemen Rise— an area characterised by terraces, banks, channels and valleys supporting sponges, soft coral, polychaetes, ascidians, turtles, snakes and sharks; – carbonate bank and terrace system of the Sahul Shelf—an area characterised by terraces, banks, channels and valleys, supporting sponges, soft corals, sessile filter feeders, polychaetes and ascidians; – pinnacles of the Bonaparte Basin—an area that contains the largest concentration of pinnacles along the Australian margin, where local upwellings of nutrient-rich water attract aggregations of fish, seabirds and turtles; and – shelf break and slope of the Arafura Shelf—an area characterised by continental slope, patch reefs and hard substrate pinnacles that support over 280 demersal fish species. <p>The Marine Park supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act.</p>

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	Biologically important areas within the Marine Park include foraging and interesting habitat for marine turtles.
Cultural Values	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. The Northern Land Council and the Kimberley Land Council are the Native Title Representative Bodies for the Northern Territory's northern region, and the Kimberley region. The Tiwi Land Council collectively represents traditional owners of the Tiwi Islands. The Oceanic Shoals MP includes important sea country for the Tiwi people (TLC 2021).
Heritage Values	No International, Commonwealth or national heritage listings apply to the AMP.
Socio-economic values.	Commercial fishing and mining are important activities in the AMP.

1.4.1.5 Roebuck Bay Marine Park

Characteristics of the Roebuck Bay AMP are presented in Table 1.11. Roebuck AMP is approximately 815km to the south-west of the Operational Area and within the EMBA.

Table 1.11: Summary of Characteristics of the Roebuck AMP (DNP, 2018b)

Name	Roebuck AMP
Area	304km ²
Depth range	less than 15m to 70 m
Types of zoning	Multiple Use Zone (IUCN Category VI) 304km ²

Values are to inform the Director's decisions when authorising activities in Marine Parks. Activities will be assessed in relation to their impacts on and risk to values, to ensure activities are undertaken in a manner that minimises impacts to as small as reasonably practicable. The following values are applicable to the Oceanic Shoals AMP (DNP, 2018c):

- Natural Values
- Cultural Values
- Heritage Values
- Socio-economic values.

Table 1.12 presents details of the value of the AMP.



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Table 1.12: Summary of value of the Roebuck AMP (DNP, 2018b)

Value	Summary
Natural Values	<p>The Marine Park includes examples of ecosystems representative of the Northwest Shelf Province—a dynamic environment influenced by strong tides, cyclonic storms, long-period swells and internal tides. The bioregion includes diverse benthic and pelagic fish communities, and ancient coastline thought to be an important seafloor feature and migratory pathway for humpback whales.</p> <p>The Marine Park supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. Biologically important areas within the Marine Park include breeding and resting habitat for seabirds, foraging and internesting habitat for marine turtles, a migratory pathway for humpback whales and foraging habitat for dugong.</p>
Cultural Values	<p>Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years.</p> <p>Yawuru people have always recognised the waters of Roebuck Bay as nagula (Yawuru sea country), and have customary responsibilities to care for it. They have a deep spiritual connection to offshore landscapes from Bugarrigarra (creator beings), and believe that snake-like metaphysical beings inhabit the sea. Cultural sites in sea country are also a source of law. The Yawuru people harvest marine resources according to the six Yawuru seasons. They have harvested pearl shell for food and cultural purposes. Fish are a staple food source, and fishing a form of cultural expression, connecting people to their country, modelled on tradition and based in traditional law. Access to sea country by families is important to cultural traditions, livelihoods and future socio-economic development opportunities. The Yawuru Native Title Holders Aboriginal Corporation is the Prescribed Body Corporate representing traditional owners with native title over coastal areas adjacent to the Marine Park, and is the point of contact for sea country in the Marine Park. The Kimberley Land Council is the Native Title Representative Body for the Kimberley region</p>
Heritage Values	<p>No international, Commonwealth or national listings apply to the Marine Park at commencement of this plan, however the Marine Park is adjacent to the West Kimberley National Heritage Place.</p>
Socio-economic values.	<p>Tourism, commercial fishing, pearling and recreation, including fishing, are important activities that occur in the Marine Park. These activities contribute to the wellbeing of regional communities and the prosperity of the nation.</p>

1.4.2 State Marine Protected Areas

No State managed Marine Parks occur within the Operational Area, however the North Kimberley, Lalang-gaddam, and Eighty Mile Beach Marine Parks overlap the EMBA (EP Section 4.5.1). The newly established Bardi Jawi Gaarra and Mayala Marine Parks in the Buccaneer Archipelago also overlap the far most western extent of the EMBA.

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1.4.2.1 North Kimberley Marine Park

The North Kimberley Marine Park overlaps with the western extent of the EMBA and is located 130km west of the Operational Area. The Marine Park is within the west Kimberley region. There are more than 1000 islands within the boundaries of the North Kimberley Marine Park, each providing an array of intertidal and subtidal habitats. There are extensive coral reefs, large estuaries, mudflats and mangroves forests supporting many threatened, protected and culturally important species such as dugongs, turtles and sawfish (DPaW, 2016).

Table 1.13


Table 1.13 presents details of the value of the North Kimberley Marine Park.

Table 1.13: Summary of value of the North Kimberley Marine Park (DPaW, 2016)

Value	Summary
Aboriginal heritage	Contains many places of cultural and spiritual importance to traditional owners
Natural Values	<p>Contains many islands, bays and estuaries with mangroves, sandy beaches, coral reefs, seagrass meadows and sponge gardens.</p> <p>Marine turtle nesting sites and breeding sites for sea and shorebird have been identified on the majority of the islands in the Kimberley, and fringing reefs line the shores of almost all the Islands. Open sea reef provide foraging habitat for marine mammals and pelagic fish. Marine fauna in the Marine Park include:</p> <ul style="list-style-type: none"> - Marine turtle species (green, flatback, loggerhead, hawksbill, leatherback turtles). - Dugong - Finfish (barramundi, threadfin salmon, mangrove jack) - Snubfin dolphin
Social Values (recreation, tourism and community)	<p>Tourism is significant for the Kimberley, generating economic, social and employment benefits for regional communities.</p> <p>Expedition cruise boat operates in the dry months (April to October) between Broome and Wyndham and Darwin</p> <p>Remote communities and towns close to the park use the area for fishing, hunting and recreational areas. The nearest town within the Marine Park to the EMBA is Wyndham, approximately 130km to the south of the EMBA.</p>
Commercial values and resource	The commercial fishing industry in the Marine Park provides regional economic benefits, employment

1.4.2.2 Eighty Mile Beach Marine Park

The Eighty Mile Beach Marine Park, located between Port Hedland and Broome, was gazetted on 29 January 2013. It covers an area of approximately 200,000 ha stretching for some 220km from Cape Missiessy to Cape Keraudren, and includes sanctuary, recreation, general use and special purpose zones. The park is managed under the Eighty Mile Beach Marine Park Management Plan 2014-20124 (DPaW, 2014).

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The listed ecological values of the Eighty Mile Beach Marine Park include its high sediment and water quality, the juxtaposition of the beach, coastal topography and seabed and the diverse and ecologically important habitats and marine/coastal flora and fauna. The listed habitat values of the Marine Park are as follows:

- The intertidal sand and mudflat communities supporting a high abundance and diversity of invertebrate life and providing a valuable food source for shorebirds (including migratory species) and other fauna
- The diverse subtidal filter-feeding communities
- Macroalgal and seagrass communities providing habitat and feeding opportunities for fish, invertebrates and dugongs
- High diversity intertidal and subtidal coral reef communities
- Mangrove communities and adjacent saltmarshes provide nutrients to the surrounding waters and habitat for fish and invertebrates.


The listed marine and coastal fauna values are as follows:

- A high diversity and abundance of nationally and internationally important shorebirds and waders (including migratory species) are found in the Marine Park
- Flatback turtles are endemic to northern Australia and nest at Eighty Mile Beach
- Dugongs and several whale and dolphin species inhabit or migrate through the Marine Park
- A highly diverse marine invertebrate fauna provides an important food source for a variety of animals, including birds, fish and turtles, along with recreational and commercial fishing opportunities
- A diversity of fish species provides recreational and commercial fishing opportunities; and
- A diversity of sharks and rays, including several protected species, are found in the park.

In addition to these natural values, the Marine Park contains land and sea important to traditional Indigenous owners through identity and place, family networks, spiritual practice and resource gathering. The sea country of the Nyangumarta and Karajarri people extends into Eighty Mile Beach MP (DNP, 2018a; KTLA, 2014).

The Marine Park also has a history of European activity including exploration, pastoralism and commercial fishing (e.g. the pearl oyster fishery). The park contains a historical WWII plane wreck (*Dornier Do-24 X-36*) and shipwrecks (two pearl luggers). The Marine Park provides tourism opportunity and recreational value through its remoteness, diversity and abundance of habitats and marine fauna and the pristine nature of the marine and coastal environment.

The Marine Park contains vast intertidal sand and mudflats that extend up to 4km wide at low tide and provide a rich source of food for many species. Eighty Mile Beach Marine Park is one of the world's most important feeding grounds for small wading birds that migrate to the area each summer, travelling from countries thousands of kilometres away (DPaW 2014)

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1.4.2.3 Lalang-gaddam

The Lalang-gaddam MP is located in the Kimberley region of WA and covers an area of approximately 13,085 km². The Lalang-gaddam MP borders the Mayala MP (Section 1.4.2.5) and Port of Yampi Sound to the west and the North Kimberley MP (Section 1.4.2.1 to the northeast (DBCA, 2022c). The MP aligns with the limit of coastal waters of WA to the north west, bordering the Kimberley AMP (Section 1.4.1.2).

In July 2022, four MPs were amalgamated to create the Lalang-gaddam MP these include Lalang-garram/Camden Sound MP, Lalang-garram/Horizontal Falls MP, North Lalang garram MP and the Maiyalam MP (DBCA, 2022c).

The subtidal habitats and communities of the MP include diverse filter-feeding communities of sponges and hard and soft corals. The intertidal and subtidal habitats of the MP also provide critical foraging and nursery areas for a wide range of threatened, protected and culturally important species such as dugong, marine turtles, saltwater crocodiles, dolphins and marine avifauna (Mustoe & Edmunds 2008). In addition, the MP also falls within an area of the Kimberley identified as the principal calving habitat and resting area for the humpback whale (*Megaptera novaeangliae*) (DBCA, 2022c).


There are no major developments in the MP and commercial activities are currently limited to tourism, commercial fishing, pearling and aquaculture supported by the pristine, warm tropical waters of the MP (DBCA, 2022c).

1.4.2.4 Bardi Jawi Gaarra Marine Park

The Bardi Jawi Gaarra MP is situated in the west Kimberley region of WA surrounding the northern part of the Dampier Peninsula and the western islands of the Buccaneer Archipelago. The Bardi Jawi Gaarra MP covers an area of 2,040 km². The Bardi Jawi Gaarra MP will come into effect on 1st July 2023 and will be reserved as a 'Class A' MP providing the highest level of protection (DBCA, 2022b). The Bardi Jawi Gaarra MP extends around the tip of the Dampier Peninsula from Pender Bay on the western side of the Dampier Peninsula to Cunningham Point on the eastern side of the Peninsula. The eastern boundary of the MP borders the Mayala MP and the western boundary extends out to the seaward limit of WA State waters (three nm from the territorial baseline) and includes intertidal areas to the high-water mark. The southern boundary of the Bardi Jawi Gaarra MP is situated approximately 160 km north of Broome (DBCA, 2022b).

Similar to the adjacent Mayala MP (Section 1.4.2.5) the Bardi Jawi Gaarra MP supports a diverse array of plants and animals. Fringing reefs have formed around the many islands of the Buccaneer Archipelago with large tides and complex currents created between the islands. Important nursery habitat is provided through many areas of mangroves, seagrasses and macroalgae communities. Sunday Island located within the Bardi Jawi Gaarra MP is recognised as having particularly extensive and diverse seagrass meadows with eight species being recorded in the raised lagoons of the islands (Kendrick et al. 2017). The high rates of growth and consumption of the seagrass and macroalgae in the lagoons, indicate they are important habitats for marine herbivores such as green turtles and rabbitfish (*Siganus lineatus*).

The warm tropical waters of the Bardi Jawi Gaarra MP also provide optimal conditions for commercial activities such as pearling, aquaculture and commercial fishing.

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The Bardi Jawi Gaarra MP also contains many places of cultural and spiritual importance to Bardi and Jawi people. The majority of significant cultural sites and places occur on land, but many have sea-related aspects (DBCA, 2022b).

1.4.2.5 Mayala Marine Park

The Mayala MP covers an area of approximately 3,150km². The Mayala MP is located in the Buccaneer Archipelago within the Kimberley region of WA, approximately 200 km northeast of Broome. The Mayala MP came into effect on 1st July 2023 and is a 'Class A' MP providing the highest level of protection (DBCA, 2022a). The Mayala MP is bordered to the west by the Bardi Jawi Gaarra MP and bordered to the east by the Lalang-gaddam MP described in Section 1.4.2.4 and Section 1.4.2.3 respectively. The Mayala MP comprises an extensive network of hundreds of islands. No terrestrial areas are included within the Mayala MP but intertidal areas to the high-water mark are included (DBCA 2022a). The area covered by the Mayala MP is home to a diverse range of marine life. Fringing reefs have formed around the many islands of the Buccaneer Archipelago, withstanding a tidal range in excess of 11 m (Richards et al. 2017; Mayala Inninalang Aboriginal Corporation RNTBC 2019). Mangrove-lined creeks, seagrass meadows and macroalgae communities create important nursery areas for fish, and turtles are regularly seen foraging and nesting in the area. From June to November each year humpback whales (*Megaptera novaeangliae*) migrate to Mayala sea country and beyond to give birth to their young, and dugongs visit the proposed marine park from May to July. The Mayala MP supports commercial activities such as pearling, aquaculture and commercial fishing. Customary hunting of turtles, dugongs and saltwater crocodiles is permitted by Mayala people in the MP.

The Mayala MP contains many places of cultural and spiritual importance such as the Port of Yampi Sound; and the establishment of the Mayala MP will contribute to the conservation and enhancement of the outstanding cultural, ecological, recreational and commercial values in the area (DBCA, 2022a; Mayala Inninalang Aboriginal Corporation RNTBC, 2019).


1.4.3 Key Ecological Features

No KEFs overlap the Operational Area. The closest KEF is the carbonate bank and terrace system of the Sahul Shelf, approximately 22km west from the Operational Area and within the EMBA.

1.4.3.1 Carbonate bank and terrace system of the Sahul Shelf

The carbonate bank and terrace system of the Sahul Shelf is located in the western JBGand to the north of Cape Bougainville and Cape Londonderry. The banks consist of a hard substrate and flat tops at depths of 150–300 m. Each bank occupies an area generally less than 10km² and is separated from the next bank by narrow sinuous channels with depths up to 150 m. The origin of the banks is uncertain, though the area contains predictably high levels of productivity, in comparison to the generally low productivity of the region (DSEWPaC, 2012a).

The banks are foraging areas for loggerhead, olive ridley and flatback turtles and provide habitat for humpback whales, and green and freshwater sawfish (Donovan et al. 2008 in DSEWPaC, 2012a). The hard substrate of the banks is thought to support diverse

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organisms including sessile benthic invertebrates such as sponges, soft and hard corals, gorgonians, bryozoans, ascidians and associated reef fish and elasmobranchs (Brewer et al. 2007). Cetaceans, green and fresh sawfish are also likely to occur in the area, as well as possibly the Australian snubfin dolphin, a migratory species occurring mostly on the northern extent of the Sahul Shelf (DSEWPaC 2012a).

According to DSEWPaC (2012a) the carbonate banks and terrace system of the Sahul Shelf are regionally important because of their role in enhancing productivity relative to their surrounds. Little is known about the banks, terraces and associated channels but they are believed to be areas of enhanced productivity and biodiversity due to the upwellings of cold nutrient-rich water at the heads of the channels and the availability of hard substrate (Brewer et al. 2007).

1.4.3.2 Continental Slope Demersal Fish Communities


The Australian Continental Slope provides important habitat for demersal fish communities, characterised by high endemism and species diversity. Specifically, the continental slope between North West Cape and the Montebello Trough is the most diverse slope bioregion in Australia with more than 500 fish species, 76 of which are endemic (Last et al. 2005 in DSEWPaC 2012).

The Continental Slope consists of two distinct community types, associated with the upper and mid slope, 225 – 500m and 750 – 1000m respectively. The Timor Province and Northwest Transition bioregions are the second-richest areas for demersal fish across the entire continental slope (DSEWPaC 2012). The bacteria and fauna that is present in the system on the Continental Slope are the basis for the food web for demersal fish and higher order consumers in the system. Further information of this system has been poorly researched, though it has been suggested that it is a detritus-based system, where infauna and epifauna become prey for a range of teleost fish, molluscs and crustaceans (Brewer et al. 2007). The higher order consumers supported by this system are likely to be carnivorous fish, deep water sharks, large squid and toothed whales (Brewer et al. 2007). The pelagic production is known to be phytoplankton based, with hotspots located around oceanic reefs and islands (Brewer et al. 2007).

It is believed that the loss of the benthic habitat along this continental shelf region would likely lead to a decline in the species diversity and endemism that this feature is associated with (DoEE 2017e). The endemism of the region is not supported by large data sets and is scarce. It is consequently not well understood what interactions exist between the physical processes and trophic structures that lead to this high diversity of fish and the suggested presence of endemic species in the region (DoEE 2017e).

1.4.3.3 Ancient Coastline at 125m Depth Contour

The shelf of the North-west Marine Region contains several terraces and steps which reflect changes in sea level that occurred over the last 100,000 years. The most prominent of these features occurs at a depth of 125m as an escarpment along the North West Shelf and Sahul Shelf (DSEWPaC 2012). Where the ancient submerged coastline provides areas of hard substrate it may contribute to higher biological diversity. Little detailed knowledge is available, but the hard substrate of the escarpment is likely to support sponges, crinoids, molluscs, echinoderms (DSEWPaC

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2012). It is understood that changes in topography at these depths are critical points for the generation of internal waves (Holloway *et al.* 2001 cited in DEWHA 2008b), playing a minor role in aiding localised upwelling or at least regional mixing associated with the seasonal changes in currents and winds. It is also believed that this prominent floor feature could be important as a migratory pathway for cetaceans and pelagic species such as the whale shark and humpback whale, as they move north and south between feeding and breeding grounds (DEWHA 2008b).

Parts of the ancient coastline are thought to provide biologically important habitats in areas otherwise dominated by soft sediments. The topographic complexity of these escarpments may also facilitate vertical mixing of the water column providing a relatively nutrient-rich environment for species present on the escarpment (DSEWPaC 2012). This enhanced productivity could potentially be attracting baitfish, which in turn provide food for the migratory species. The pressures of potential concern on the biodiversity value of this feature generally include ocean acidification as a result of climate change (DoEE 2017).

1.4.3.4 Carbonate bank and terrace system of the Van Diemen Rise

Lying on the north-eastern side of the Joseph Bonaparte Gulf, the carbonate banks and valleys of the Van Diemen Rise provide more habitat diversity than in the central gulf, resulting in a higher diversity of epifauna (Przeslawski *et al.* 2011). The region has been identified as a sponge biodiversity hotspot (Przeslawski *et al.* 2014).


The banks, ridges and terraces of the Van Diemen rise are raised geomorphic features with relatively high proportions of hard substrate which support sponge and octocoral gardens. These, in turn, provide habitat to other epifauna, by providing structure in an otherwise flat environment (Przeslawski *et al.* 2011). As they are further from the coast, these raised features are influenced less by tides and the associated increased turbidity compared to the central Joseph Bonaparte Gulf. The variability in water depth and substrate composition may contribute to the presence of unique ecosystems in the channels. This may also contribute to the richness of epifauna found here.

Rich sponge gardens and octocorals have been identified on the eastern Joseph Bonaparte Gulf along the banks, ridges and some terraces (Heap *et al.* 2010, Przeslawski *et al.* 2014). Plains and deep holes/valleys are characterised by scattered epifauna and infauna that include polychaetes and ascidians. Epibenthic communities such as the sponges found in the channels support first and second-order consumers. Biophysical maps associated with clustering analysis (Ellis & Pitcher 2009) show greater clustering in this area, which indicates greater environmental variability compared with the rest of the North Marine Region.


The Carbonate bank and terrace system of the Van Diemen rise is defined as a key ecological feature considered important for its role in enhancing biodiversity and local productivity relative to its surrounds and for supporting relatively high species diversity.

1.4.3.5 Pinnacles of the Bonaparte Basin

Covering more than 520km² within the Bonaparte Basin, this feature contains the largest concentration of pinnacles along the Australian margin. The pinnacles of the Bonaparte Basin are thought to be the eroded remnants of underlying strata; it is likely that the

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vertical walls generate local upwelling of nutrient-rich water, leading to phytoplankton productivity that attracts aggregations of planktivorous and predatory fish, seabirds and foraging turtles (CoA, 2008).

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ATTACHMENT B1: OPERATIONAL AREA PMST RESULTS



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

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

Report created: 13-Nov-2023

[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:	19
Listed Migratory Species:	37

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:	58
Whales and Other Cetaceans:	13
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:	9
Key Ecological Features (Marine):	1
Biologically Important Areas:	3
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Commonwealth Marine Area

[\[Resource Information \]](#)

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

Feature Name

Commonwealth Marine Areas (EPBC Act)

Listed Threatened Species

[\[Resource Information \]](#)

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

Number is the current name ID.

Scientific Name

Threatened Category

Presence Text

BIRD

[Calidris canutus](#)

Red Knot, Knot [855]

Endangered

Species or species habitat may occur within area

[Calidris ferruginea](#)

Curlew Sandpiper [856]

Critically Endangered

Species or species habitat may occur within area

[Numenius madagascariensis](#)

Eastern Curlew, Far Eastern Curlew [847]

Critically Endangered

Species or species habitat may occur within area

MAMMAL

[Balaenoptera borealis](#)

Sei Whale [34]

Vulnerable

Species or species habitat may occur within area

[Balaenoptera musculus](#)

Blue Whale [36]

Endangered

Species or species habitat may occur within area

[Balaenoptera physalus](#)

Fin Whale [37]

Vulnerable

Species or species habitat may occur within area

REPTILE

Scientific Name	Threatened Category	Presence Text
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
SHARK		
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Glyphis garricki Northern River Shark, New Guinea River Shark [82454]	Endangered	Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area

Listed Migratory Species [[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area

Migratory Marine Species

Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
Dugong dugon Dugong [28]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area

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 likely to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
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

Scientific Name	Threatened Category	Presence Text
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	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
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area
Fish		
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus spinostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribbioned Pipehorse, Ribbioned 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 histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammal		
Dugong dugon Dugong [28]		Species or species habitat may occur within area
Reptile		
Acalyptophis peronii Horned Seasnake [1114]		Species or species habitat may occur within area
Aipysurus duboisii Dubois' Seasnake [1116]		Species or species habitat may occur within area
Aipysurus eydouxii Spine-tailed Seasnake [1117]		Species or species habitat may occur within area
Aipysurus laevis Olive Seasnake [1120]		Species or species habitat may occur within area
Astrotia stokesii Stokes' Seasnake [1122]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Chitulia ornata as Hydrophis ornatus Spotted Seasnake, Ornate Reef Seasnake [87377]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
Disteira kingii Spectacled Seasnake [1123]		Species or species habitat may occur within area
Disteira major Olive-headed Seasnake [1124]		Species or species habitat may occur within area
Enhydrina schistosa Beaked Seasnake [1126]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area
Hydrelaps darwiniensis Black-ringed Seasnake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Seasnake [1101]		Species or species habitat may occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may occur within area
Hydrophis macdowelli as Hydrophis mcdowelli Small-headed Seasnake [75601]		Species or species habitat may occur within area
Lapemis curtus as Lapemis hardwickii Spine-bellied Seasnake [83554]		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

Scientific Name	Threatened Category	Presence Text
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

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

Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat likely to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
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
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat may occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Development of Blacktip Gas Field	2003/1180	Controlled Action	Post-Approval
Not controlled action			
2D Seismic Survey in Permit Areas WA-318-P & WA-319-P, near Cape Londonderry	2004/1687	Not Controlled Action	Completed
Nexus Drilling Program NT-P66	2007/3745	Not Controlled Action	Completed
Not controlled action (particular manner)			
2D and 3D Seismic Survey	2011/6197	Not Controlled Action (Particular Manner)	Post-Approval
2D Marine Seismic Survey	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval

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
Bonaparte 2D & 3D marine seismic survey	2011/5962	Not Controlled Action (Particular Manner)	Post-Approval
Petrel MC2D Marine Seismic Survey	2010/5368	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval

Key Ecological Features

[\[Resource Information \]](#)

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

Name	Region
Carbonate bank and terrace system of the Sahul Shelf	North-west

Biologically Important Areas

Scientific Name	Behaviour	Presence
Marine Turtles		
Chelonia mydas Green Turtle [1765]	Foraging	Known to occur
Lepidochelys olivacea Olive Ridley Turtle [1767]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting buffer	Known to occur

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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


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ATTACHMENT B2: ZPI PMST RESULTS



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

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

Report created: 13-Nov-2023

[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:	1
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	2
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	38
Listed Migratory Species:	55

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:	98
Whales and Other Cetaceans:	15
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	3
Habitat Critical to the Survival of Marine Turtles:	2

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	4
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	25
Key Ecological Features (Marine):	1
Biologically Important Areas:	19
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

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

Name	State	Legal Status
Natural		
The West Kimberley	WA	Listed place

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

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

Feature Name

Commonwealth Marine Areas (EPBC Act)

Commonwealth Marine Areas (EPBC Act)

Listed Threatened Species [\[Resource Information \]](#)

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

Scientific Name	Threatened Category	Presence Text
BIRD		
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Falcunculus frontatus whitei Crested Shrike-tit (northern), Northern Shrike-tit [26013]	Vulnerable	Species or species habitat likely to occur within area
Geophaps smithii blaauwi Partridge Pigeon (western) [66501]	Vulnerable	Species or species habitat likely to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	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
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat likely to occur within area
FISH		
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat likely to occur within area
MAMMAL		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Conilurus penicillatus Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma [132]	Vulnerable	Species or species habitat may occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
Mesembriomys gouldii gouldii Black-footed Tree-rat (Kimberley and mainland Northern Territory), Djintamoonga, Manbul [87618]	Endangered	Species or species habitat may occur within area
Petrogale concinna monastria Nabarlek (Kimberley) [87607]	Endangered	Species or species habitat likely to occur within area
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheath-tailed Bat, Bare-rumped Sheath-tail Bat [66889]	Vulnerable	Species or species habitat likely to occur within area
Trichosurus vulpecula arnhemensis Northern Brushtail Possum [83091]	Vulnerable	Species or species habitat may occur within area
REPTILE		
Aipysurus apraefrontalis Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
Aipysurus foliosquama Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
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
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		
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Glyphis garricki Northern River Shark, New Guinea River Shark [82454]	Endangered	Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
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
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area
Onychoprion anaethetus Bridled Tern [82845]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat likely to occur within area
Sterna dougallii Roseate Tern [817]		Breeding likely to occur within area
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat 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]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat likely to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Breeding known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Sousa sahalensis as Sousa chinensis Australian Humpback Dolphin [87942]		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 likely to occur within area
Migratory Terrestrial Species		
Cecropis daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may 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 may occur within area
Migratory Wetlands Species		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat 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]		Breeding known to occur within area
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may 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]		Species or species habitat may occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat 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
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area overfly marine 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 likely to occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Onychoprion anaethetus as Sterna anaethetus Bridled Tern [82845]		Breeding known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat likely to occur within area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area
Sterna dougallii Roseate Tern [817]		Breeding likely to occur within area

Scientific Name	Threatened Category	Presence Text
Sternula albifrons as Sterna albifrons Little Tern [82849]		Species or species habitat may occur within area
Thalasseus bengalensis as Sterna bengalensis Lesser Crested Tern [66546]		Breeding known to occur within area
Thalasseus bergii as Sterna bergii Greater Crested Tern [83000]		Breeding known to occur within area

Fish

Bhanotia fasciolata Corrugated Pipefish, Barbed Pipefish [66188]		Species or species habitat may occur within area
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys haematopterus Reef-top Pipefish [66201]		Species or species habitat may occur within area
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area
Cosmocampus banneri Roughridge Pipefish [66206]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys parvicarinatus Short-keel Pipefish, Short-keeled Pipefish [66230]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus 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

Scientific Name	Threatened Category	Presence Text
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammal		
Dugong dugon Dugong [28]		Species or species habitat may occur within area
Reptile		
Acalyptophis peronii Horned Seasnake [1114]		Species or species habitat may occur within area
Aipysurus apraefrontalis Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
Aipysurus duboisii Dubois' Seasnake [1116]		Species or species habitat may occur within area
Aipysurus eydouxii Spine-tailed Seasnake [1117]		Species or species habitat may occur within area
Aipysurus foliosquama Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Aipysurus laevis Olive Seasnake [1120]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Astrotia stokesii Stokes' Seasnake [1122]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Chitulia inornata as Hydrophis inornatus Plain Seasnake [87379]		Species or species habitat may occur within area
Chitulia ornata as Hydrophis ornatus Spotted Seasnake, Ornate Reef Seasnake [87377]		Species or species habitat may occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnstone's Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Disteira kingii Spectacled Seasnake [1123]		Species or species habitat may occur within area
Disteira major Olive-headed Seasnake [1124]		Species or species habitat may occur within area
Emydocephalus annulatus Turtle-headed Seasnake [1125]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Enhydrina schistosa Beaked Seasnake [1126]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Hydrelaps darwiniensis Black-ringed Seasnake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Seasnake [1101]		Species or species habitat may occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may occur within area
Hydrophis macdowelli as Hydrophis mcdowelli Small-headed Seasnake [75601]		Species or species habitat may occur within area
Lapemis curtus as Lapemis hardwickii Spine-bellied Seasnake [83554]		Species or species habitat may occur within area
Leioselasma coggeri as Hydrophis coggeri Black-headed Sea Snake, Slender-necked Seasnake [87373]		Species or species habitat may occur within area
Leioselasma pacifica as Hydrophis pacificus Large-headed Seasnake, Pacific Seasnake [87378]		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

Scientific Name	Threatened Category	Presence Text
Parahydrophis mertoni Northern Mangrove Seasnake [1090]		Species or species habitat may occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

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

Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat likely to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Breeding known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Sousa sahalensis Australian Humpback Dolphin [87942]		Foraging, feeding or related behaviour known to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Australian Marine Parks [[Resource Information](#)]

Park Name	Zone & IUCN Categories
Joseph Bonaparte Gulf	Multiple Use Zone (IUCN VI)
Kimberley	Multiple Use Zone (IUCN VI)
Joseph Bonaparte Gulf	Special Purpose Zone (IUCN VI)

Habitat Critical to the Survival of Marine Turtles

Scientific Name	Behaviour	Presence
Aug - Sep		
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur
Dec - Jan		
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	
Lesueur Island	Nature Reserve	WA	
North Kimberley	Marine Park	WA	
Unnamed WA44677	5(1)(h) Reserve	WA	
Uunguu	Indigenous Protected Area	WA	

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	
Controlled action				
Bonaparte Liquified Natural Gas Project	2011/6141	Controlled Action	Post-Approval	
Development of Blacktip Gas Field	2003/1180	Controlled Action	Post-Approval	
Not controlled action				
2D seismic survey, exploration permit NT/P67	2004/1587	Not Controlled Action	Completed	
2D Seismic Survey in Permit Areas WA-318-P & WA-319-P, near Cape Londonderry	2004/1687	Not Controlled Action	Completed	
Drilling of Marina-1 Exploration Well	2007/3586	Not Controlled Action	Completed	
Nexus Drilling Program NT-P66	2007/3745	Not Controlled Action	Completed	
Not controlled action (particular manner)				
2D and 3D Seismic Survey	2011/6197	Not Controlled Action (Particular Manner)	Post-Approval	
2D Marine Seismic Survey	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval	
2D marine seismic survey within permit area WA-318-P	2007/3879	Not Controlled Action (Particular Manner)	Post-Approval	
2D Seismic survey	2009/5076	Not Controlled Action (Particular	Post-Approval	

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
2D Seismic Survey in WA Permit Area TP/22 and Commonwealth Permit Area WA-280-P	2005/2100	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey	2009/4681	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte 2D & 3D marine seismic survey	2011/5962	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte Seismic and Bathymetric Survey	2012/6295	Not Controlled Action (Particular Manner)	Post-Approval
Fishburn2D Marine Seismic Survey	2012/6659	Not Controlled Action (Particular Manner)	Post-Approval
Floyd 3D and Chisel 3D Seismic Surveys	2011/6220	Not Controlled Action (Particular Manner)	Post-Approval
Gold 2D Marine Seismic Survey Permit Areas WA375P and WA376P	2009/4698	Not Controlled Action (Particular Manner)	Post-Approval
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Marine Environmental Survey 2012	2012/6310	Not Controlled Action (Particular Manner)	Post-Approval
Nova 3D Seismic Survey	2013/6825	Not Controlled Action (Particular Manner)	Post-Approval
NT/P77 3D Marine Seismic Survey	2009/4683	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Petrel MC2D Marine Seismic Survey	2010/5368	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
2D Marine Seismic Survey	2008/4623	Referral Decision	Completed
Nova 3D Seismic Survey, WA 442-NT/P81, Joseph Bonaparte Gulf	2013/6820	Referral Decision	Completed

Key Ecological Features

[[Resource Information](#)]

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

Name	Region
Carbonate bank and terrace system of the Sahul Shelf	North-west

Biologically Important Areas

Scientific Name	Behaviour	Presence
Dolphins		
Orcaella heinsohni		
Australian Snubfin Dolphin [81322]	Breeding	Known to occur
Orcaella heinsohni		
Australian Snubfin Dolphin [81322]	Calving	Known to occur
Orcaella heinsohni		
Australian Snubfin Dolphin [81322]	Foraging (high density prey)	Known to occur
Orcaella heinsohni		
Australian Snubfin Dolphin [81322]	Resting	Known to occur
Sousa chinensis		
Indo-Pacific Humpback Dolphin [50]	Foraging	Known to occur
Sousa chinensis		
Indo-Pacific Humpback Dolphin [50]	Foraging	Likely to occur

Scientific Name	Behaviour	Presence
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging (high density prey)	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Significant habitat	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Significant habitat - unknown behaviour	Likely to occur
Marine Turtles		
Caretta caretta Loggerhead Turtle [1763]	Foraging	Known to occur
Chelonia mydas Green Turtle [1765]	Foraging	Known to occur
Chelonia mydas Green Turtle [1765]	Internesting buffer	Known to occur
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur
Lepidochelys olivacea Olive Ridley Turtle [1767]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting buffer	Known to occur
Seabirds		
Fregata ariel Lesser Frigatebird [1012]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Breeding	Known to occur
Thalasseus bengalensis Lesser Crested Tern [66546]	Breeding	Known to occur

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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


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ATTACHMENT B3: EMBA PMST RESULTS



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

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

Report created: 13-Nov-2023

[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:	1
Wetlands of International Importance (Ramsar)	3
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	4
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	56
Listed Migratory Species:	81

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:	3
Commonwealth Heritage Places:	2
Listed Marine Species:	136
Whales and Other Cetaceans:	27
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	13
Habitat Critical to the Survival of Marine Turtles:	3

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	32
Regional Forest Agreements:	None
Nationally Important Wetlands:	5
EPBC Act Referrals:	124
Key Ecological Features (Marine):	6
Biologically Important Areas:	65
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

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

Name	State	Legal Status
Natural		
The West Kimberley	WA	Listed place

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

Ramsar Site Name	Proximity
Eighty-mile beach	Within Ramsar site
Ord river floodplain	Within Ramsar site
Roebuck bay	Within 10km of 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 Ecological Communities [\[Resource Information \]](#)

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

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

Community Name	Threatened Category	Presence Text
Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula	Endangered	Community likely to occur within area

Listed Threatened Species [\[Resource Information \]](#)

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

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		

Scientific Name	Threatened Category	Presence Text
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat known to occur within area
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat known to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat known to occur within area
Falcunculus frontatus whitei Crested Shrike-tit (northern), Northern Shrike-tit [26013]	Vulnerable	Species or species habitat likely to occur within area
Geophaps smithii blaauwi Partridge Pigeon (western) [66501]	Vulnerable	Species or species habitat likely to occur within area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Critically 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
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area
Polytelis alexandrae Princess Parrot, Alexandra's Parrot [758]	Vulnerable	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat likely to occur within area
FISH		
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Breeding known to occur within area
MAMMAL		
Antechinus bellus Fawn Antechinus [344]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera 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
Conilurus penicillatus Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma [132]	Vulnerable	Species or species habitat may occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area
Isoodon auratus auratus Golden Bandicoot (mainland) [66665]	Vulnerable	Species or species habitat likely to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat known to occur within area
Macrotis lagotis Greater Bilby [282]	Vulnerable	Species or species habitat known to occur within area
Mesembriomys gouldii gouldii Black-footed Tree-rat (Kimberley and mainland Northern Territory), Djintamoonga, Manbul [87618]	Endangered	Species or species habitat may occur within area
Petrogale concinna canescens Nabarlek (Top End) [87606]	Endangered	Species or species habitat likely to occur within area
Petrogale concinna concinna Nabarlek (Victoria River District) [87605]	Critically Endangered	Species or species habitat likely to occur within area
Petrogale concinna monastria Nabarlek (Kimberley) [87607]	Endangered	Species or species habitat known to occur within area
Phascogale pirata Northern Brush-tailed Phascogale [82954]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Phascogale tapoatafa kimberleyensis Kimberley brush-tailed phascogale, Brush-tailed Phascogale (Kimberley) [88453]	Vulnerable	Species or species habitat likely to occur within area
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheath-tailed Bat, Bare- rumped Sheathtail Bat [66889]	Vulnerable	Species or species habitat likely to occur within area
Trichosurus vulpecula arnhemensis Northern Brushtail Possum [83091]	Vulnerable	Species or species habitat likely to occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat likely to occur within area
REPTILE		
Acanthophis hawkei Plains Death Adder [83821]	Vulnerable	Species or species habitat may occur within area
Aipysurus apraefrontalis Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
Aipysurus foliosquama Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Liopholis kintorei Great Desert Skink, Tjakura, Warrarna, Mulyamiji [83160]	Vulnerable	Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area

SHARK

Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Glyphis garricki Northern River Shark, New Guinea River Shark [82454]	Endangered	Breeding known to occur within area
Glyphis glyphis Speartooth Shark [82453]	Critically Endangered	Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Breeding known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat known to occur within area

Listed Migratory Species

[[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		

Scientific Name	Threatened Category	Presence Text
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Hydroprogne caspia Caspian Tern [808]		Breeding known to occur within area
Onychoprion anaethetus Bridled Tern [82845]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area
Sternula albifrons Little Tern [82849]		Breeding known to occur within area
Sula dactylatra Masked Booby [1021]		Breeding known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Sula sula Red-footed Booby [1023]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area

Scientific Name	Threatened Category	Presence Text
Dugong dugon Dugong [28]		Migration route 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
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 known to occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Breeding known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Breeding known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sousa sahalensis as Sousa chinensis Australian Humpback Dolphin [87942]		Breeding known to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Migratory Terrestrial Species		
Cecropis daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		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
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Glareola maldivarum Oriental Pratincole [840]		Roosting known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]		Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Roosting known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area

Other Matters Protected by the EPBC Act

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

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

Commonwealth Land Name	State
Defence	
Defence - BRADSHAW FIELD TRAINING AREA [70043]	NT
Defence - MT GOODWIN RADAR SITE [70063]	NT

Commonwealth Land Name	State
Defence - YAMPI SOUND TRAINING AREA [50145]	WA

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

Name	State	Status
Natural		
Bradshaw Defence Area	NT	Listed place
Yampi Defence Area	WA	Listed place

Listed Marine Species [\[Resource Information \]](#)

Scientific Name	Threatened Category	Presence Text
Bird		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area overfly marine area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area overfly marine area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Cecropis daurica as Hirundo daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area overfly marine area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area overfly marine area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area overfly marine area
Chroicocephalus novaehollandiae as Larus novaehollandiae Silver Gull [82326]		Breeding known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area overfly marine area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area overfly marine area
Glareola maldivarum Oriental Pratincole [840]		Roosting known to occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Breeding known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area overfly marine area
Limnodromus semipalmatus Asian Dowitcher [843]		Species or species habitat known to occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area overfly marine area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat known to occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area overfly marine area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area overfly marine area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Onychoprion anaethetus as Sterna anaethetus Bridled Tern [82845]		Breeding known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Roosting known to occur within area overfly marine area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area overfly marine area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area overfly marine area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area
Sternula albifrons as Sterna albifrons Little Tern [82849]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Stiltia isabella Australian Pratincole [818]		Roosting known to occur within area overfly marine area
Sula dactylatra Masked Booby [1021]		Breeding known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Sula sula Red-footed Booby [1023]		Breeding known to occur within area
Thalasseus bengalensis as Sterna bengalensis Lesser Crested Tern [66546]		Breeding known to occur within area
Thalasseus bergii as Sterna bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area overfly marine area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area overfly marine area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area overfly marine area
Fish		
Bhanotia fasciolata Corrugated Pipefish, Barbed Pipefish [66188]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys haematopterus Reef-top Pipefish [66201]		Species or species habitat may occur within area
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area
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

Scientific Name	Threatened Category	Presence Text
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area
Halicampus spinostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys parvicarinatus Short-keel Pipefish, Short-keeled Pipefish [66230]		Species or species habitat may occur within area

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
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
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
Mammal		
Dugong dugon Dugong [28]		Migration route known to occur within area
Reptile		
Acalyptophis peronii Horned Seasnake [1114]		Species or species habitat may occur within area
Aipysurus apraefrontalis Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
Aipysurus duboisii Dubois' Seasnake [1116]		Species or species habitat may occur within area
Aipysurus eydouxii Spine-tailed Seasnake [1117]		Species or species habitat may occur within area
Aipysurus foliosquama Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Aipysurus fuscus Dusky Seasnake [1119]		Species or species habitat may occur within area
Aipysurus laevis Olive Seasnake [1120]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Aipysurus tenuis Brown-lined Seasnake [1121]		Species or species habitat may occur within area
Astrotia stokesii Stokes' Seasnake [1122]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Chitulia inornata as Hydrophis inornatus Plain Seasnake [87379]		Species or species habitat may occur within area
Chitulia ornata as Hydrophis ornatus Spotted Seasnake, Ornate Reef Seasnake [87377]		Species or species habitat may occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnstone's Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Disteira kingii Spectacled Seasnake [1123]		Species or species habitat may occur within area
Disteira major Olive-headed Seasnake [1124]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Emydocephalus annulatus Turtle-headed Seasnake [1125]		Species or species habitat may occur within area
Enhydrina schistosa Beaked Seasnake [1126]		Species or species habitat may occur within area
Ephalophis greyi North-western Mangrove Seasnake [1127]		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 Black-ringed Seasnake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Seasnake [1101]		Species or species habitat may occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may occur within area
Hydrophis macdowelli as Hydrophis mcdowelli Small-headed Seasnake [75601]		Species or species habitat may occur within area
Lapemis curtus as Lapemis hardwickii Spine-bellied Seasnake [83554]		Species or species habitat may occur within area
Leioselasma coggeri as Hydrophis coggeri Black-headed Sea Snake, Slender-necked Seasnake [87373]		Species or species habitat may occur within area
Leioselasma pacifica as Hydrophis pacificus Large-headed Seasnake, Pacific Seasnake [87378]		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 known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Parahydrophis mertoni Northern Mangrove Seasnake [1090]		Species or species habitat may occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

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

Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
Lagenodelphis hosei Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Breeding known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence
Sousa sahalensis Australian Humpback Dolphin [87942]		Breeding known to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
Steno bredanensis Rough-toothed Dolphin [30]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Australian Marine Parks		[Resource Information]
Park Name	Zone & IUCN Categories	
Kimberley	Habitat Protection Zone (IUCN IV)	
Kimberley	Habitat Protection Zone (IUCN IV)	
Oceanic Shoals	Habitat Protection Zone (IUCN IV)	

Park Name	Zone & IUCN Categories
Eighty Mile Beach	Multiple Use Zone (IUCN VI)
Joseph Bonaparte Gulf	Multiple Use Zone (IUCN VI)
Kimberley	Multiple Use Zone (IUCN VI)
Oceanic Shoals	Multiple Use Zone (IUCN VI)
Oceanic Shoals	Multiple Use Zone (IUCN VI)
Roebuck	Multiple Use Zone (IUCN VI)
Kimberley	National Park Zone (IUCN II)
Oceanic Shoals	National Park Zone (IUCN II)
Joseph Bonaparte Gulf	Special Purpose Zone (IUCN VI)
Oceanic Shoals	Special Purpose Zone (Trawl) (IUCN VI)

Habitat Critical to the Survival of Marine Turtles

Scientific Name	Behaviour	Presence
Aug - Sep		
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur
Dec - Jan		
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur
May - Jul		
Lepidochelys olivacea Olive Ridley Turtle [1767]	Nesting	Known to occur

Extra Information

State and Territory Reserves		[Resource Information]
Protected Area Name	Reserve Type	State
Adele Island	Nature Reserve	WA
Balangarra	Indigenous Protected Area	WA
Bardi Jawi	Indigenous Protected Area	WA
Browse Island	Nature Reserve	WA

Protected Area Name	Reserve Type	State
Coulomb Point	Nature Reserve	WA
Dambimangari	Indigenous Protected Area	WA
Eighty Mile Beach	Marine Park	WA
Jinmarnkur	Conservation Park	WA
Jinmarnkur Kulja	Nature Reserve	WA
Karajarri	Indigenous Protected Area	WA
Keep River	Proposed National Parks NT Act park or park addition	
Lacepede Islands	Nature Reserve	WA
Lalang-garram / Camden Sound	Marine Park	WA
Lalang-garram / Horizontal Falls	Marine Park	WA
Lesueur Island	Nature Reserve	WA
Low Rocks	Nature Reserve	WA
Niiwalarra Islands	National Park	WA
North Kimberley	Marine Park	WA
North Lalang-garram	Marine Park	WA
Ord River	Nature Reserve	WA
Swan Island	Nature Reserve	WA
Tanner Island	Nature Reserve	WA
Unnamed WA28968	5(1)(h) Reserve	WA
Unnamed WA37168	5(1)(h) Reserve	WA
Unnamed WA41775	5(1)(h) Reserve	WA
Unnamed WA44669	5(1)(h) Reserve	WA
Unnamed WA44673	5(1)(h) Reserve	WA
Unnamed WA44677	5(1)(h) Reserve	WA
Unnamed WA53015	Nature Reserve	WA

Protected Area Name	Reserve Type	State
Uunguu	Indigenous Protected Area	WA
Yawuru	Indigenous Protected Area	WA
Yawuru Nagulagun / Roebuck Bay	Marine Park	WA

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

Wetland Name	State
Bunda-Bunda Mound Springs	WA
Legune Wetlands	NT
Ord Estuary System	WA
Willie Creek Wetlands	WA
Yampi Sound Training Area	WA

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

Title of referral	Reference	Referral Outcome	Assessment Status
Cockatoo Island Multi-User Supply Base, WA	2017/7986		Assessment
Darwin Pipeline Duplication (DPD) Project	2022/09372		Assessment
Koolan Island Operations	2022/09392		Assessment
Northern Endeavour Phase 1 Decommissioning	2022/09327		Post-Approval
Ocean Barramundi Expansion Project	2022/09272		Assessment
Project Crux Cable Lay and Operation	2022/09441		Completed

Controlled action

275 km gas pipeline from Wadeye to existing Darwin gas pipeline	2006/2930	Controlled Action	Post-Approval
2-D seismic survey Scott Reef	2000/125	Controlled Action	Post-Approval
Blacktip Project - Wharf Construction	2007/3293	Controlled Action	Completed
Bonaparte Liquified Natural Gas Project	2011/6141	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Decommissioning of Buffalo Oil Field	2003/984	Controlled Action	Post-Approval
Develop Ichthys gas-condensate field permit area W	2006/2767	Controlled Action	Completed
Development of Blacktip Gas Field	2003/1180	Controlled Action	Post-Approval
Development of Browse Basin Gas Fields (Upstream)	2008/4111	Controlled Action	Completed
Ichthys Gas Field, Offshore and onshore processing facilities and subsea pipeline	2008/4208	Controlled Action	Post-Approval
Iron ore mine	2006/2522	Controlled Action	Post-Approval
Montara 4, 5, and 6 Oil Production Wells, and Montara 3 Gas Re-Injection Well	2002/755	Controlled Action	Post-Approval
Pluton Irvine Island Iron Ore Project	2011/6064	Controlled Action	Proposed Decision
Prelude Floating Liquefied Natural Gas Facility and Gas Field Development	2008/4146	Controlled Action	Post-Approval
Project Sea Dragon stage 1 prawn aquaculture project, NT	2015/7527	Controlled Action	Post-Approval
PTTEP AA Floating LNG Facility	2011/6025	Controlled Action	Completed
Trans-territory Gas Pipeline	2003/1186	Controlled Action	Completed
Not controlled action			
2D seismic survey, exploration permit NT/P67	2004/1587	Not Controlled Action	Completed
2D Seismic Survey in Permit Areas WA-318-P & WA-319-P, near Cape Londonderry	2004/1687	Not Controlled Action	Completed
3D marine seismic survey in WA 314P and WA 315P	2004/1927	Not Controlled Action	Completed
Adele Trend TQ3D Seismic Survey	2001/252	Not Controlled Action	Completed
Aquaculture - Barramundi grow out, Yampi Sound	2005/2476	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Backpacker-1 Offshore Hydrocarbon Exploration Well	2001/300	Not Controlled Action	Completed
Buffalo In-Fill Production Wells	2001/475	Not Controlled Action	Completed
Construction and operation of Radar Infrastructure	2004/1406	Not Controlled Action	Completed
Controlled Source Electromagnetic 2D Survey	2009/4980	Not Controlled Action	Completed
Controlled Source Electromagnetic Survey	2010/5434	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
Drilling of Marina-1 Exploration Well	2007/3586	Not Controlled Action	Completed
Establish a 4m wide trace line along the road alignment for James Price Point	2010/5682	Not Controlled Action	Completed
Exploration Well AC/P23	2001/234	Not Controlled Action	Completed
Koolan Island Mine - Reconstruction of seawall and capital dewatering of mine pit, 130km northwest of	2016/7848	Not Controlled Action	Completed
Marine Seismic Survey in WA-239-P	2000/24	Not Controlled Action	Completed
Marine Survey for the Australia-ASEAN Power Link AAPL	2020/8714	Not Controlled Action	Completed
Montara-3 Offshore Hydrocarbon Exploration Well Permit Area AC/RL3	2001/489	Not Controlled Action	Completed
Nexus Drilling Program NT-P66	2007/3745	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
P30 Hydrocarbon Exploration Well	2001/293	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed
Saucepan 1 Exploration Well ACP23	2000/2	Not Controlled Action	Completed
Strumbo-1 Gas Exploration Well Permit Area WA-288-P	2002/884	Not Controlled Action	Completed
Thresher-1 Well	2000/84	Not Controlled Action	Completed
Not controlled action (particular manner)			
2D and 3D Seismic Survey	2011/6197	Not Controlled Action (Particular Manner)	Post-Approval
2D and 3D Seismic Survey WA-405-P	2008/4133	Not Controlled Action (Particular Manner)	Post-Approval
2D and 3D Seismic Survey WA-405-P	2009/5104	Not Controlled Action (Particular Manner)	Post-Approval
2D Marine Seismic Survey	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey of Braveheart, Kurrajong, Sunshine and Crocodile	2006/2917	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey within permit area WA-318-P	2007/3879	Not Controlled Action (Particular Manner)	Post-Approval
2D 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	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		(Particular Manner)	
2D Seismic Survey in WA Permit Area TP/22 and Commonwealth Permit Area WA-280-P	2005/2100	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey	2009/4681	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey, Permit AC/P 23	2005/2364	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey	2006/2729	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey (NT/P68)	2006/2980	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey of AC/P4, AC/P17 and AC/P24	2006/2857	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey WA-406-P Bonaparte Basin	2007/3904	Not Controlled Action (Particular Manner)	Post-Approval
Acacia East Pit Cutback Mining Project,northern Kimberley, WA	2013/6752	Not Controlled Action (Particular Manner)	Post-Approval
Aurora MC3D Marine Seismic Survey	2010/5510	Not Controlled Action (Particular Manner)	Post-Approval
Bassett 3D Marine Seismic Survey	2010/5538	Not Controlled Action (Particular Manner)	Post-Approval
Blacktip Gas Project Yelcherr Beach Wharf Construction	2007/3537	Not Controlled Action (Particular Manner)	Post-Approval

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
Bonaparte 3D & 2D Seismic Survey, in NT/P82, Timor Sea	2012/6398	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte Basin Seabed Mapping Survey	2009/4951	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte Seismic and Bathymetric Survey	2012/6295	Not Controlled Action (Particular Manner)	Post-Approval
Braveheart 2D Infill Marine Seismic Survey 100km offshore	2008/4442	Not Controlled Action (Particular 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
Construction of a 43km long sealed access road to the Browse LNG precinct	2011/5852	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260	Not Controlled Action (Particular Manner)	Post-Approval
Drilling of Exploration & Appraisal Wells Braveheart-1 & Cornea-3	2009/5160	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Effect of marine seismic sounds to demersal fish and pearl oysters, north-west WA	2018/8169	Not Controlled Action (Particular Manner)	Post-Approval
Endurance 3D Marine Seismic Data Acquisition Survey	2007/3667	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Campaign	2011/6047	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling in Permit Areas WA-402-P & WA-403-P	2010/5297	Not Controlled Action (Particular Manner)	Post-Approval
Fishburn2D Marine Seismic Survey	2012/6659	Not Controlled Action (Particular Manner)	Post-Approval
Floyd 3D and Chisel 3D Seismic Surveys	2011/6220	Not Controlled Action (Particular Manner)	Post-Approval
Geoscience Australia - Marine survey in Browse Basin to acquire data to assist assessment of CO2 sto	2013/6747	Not Controlled Action (Particular Manner)	Post-Approval
Gicea 3D Marine Seismic Survey	2008/4389	Not Controlled Action (Particular Manner)	Post-Approval
Gold 2D Marine Seismic Survey Permit Areas WA375P and WA376P	2009/4698	Not Controlled Action (Particular Manner)	Post-Approval
Ichthys 3D Marine Seismic Survey	2010/5550	Not Controlled Action (Particular Manner)	Post-Approval
Joseph Bonaparte Gulf Seabed mapping survey	2010/5517	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Koolama 2D Seismic Survey Dampier Basin	2010/5420	Not Controlled Action (Particular Manner)	Post-Approval
Malita West 3D Seismic Survey WA-402-P and WA-403-P	2007/3936	Not Controlled Action (Particular Manner)	Post-Approval
Marine Environmental Survey 2012	2012/6310	Not Controlled Action (Particular Manner)	Post-Approval
Nova 3D Seismic Survey	2013/6825	Not Controlled Action (Particular Manner)	Post-Approval
NT/P77 3D Marine Seismic Survey	2009/4683	Not Controlled Action (Particular Manner)	Post-Approval
NT/P80 2010 2D Marine Seismic Survey	2010/5487	Not Controlled Action (Particular Manner)	Post-Approval
Octantis 3D Marine Seismic Survey, Permit Area AC/P41 off northern Western Australia	2007/3369	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Exploration Drilling Campaign	2011/6222	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Fibre Optic Cable Network Construction & Operation, Port Hedland WA to Darwin NT	2014/7223	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Gas Exploration Drilling Campaign	2012/6384	Not Controlled Action (Particular Manner)	Post-Approval
Petrel MC2D Marine Seismic Survey	2010/5368	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Removal of Potential Unexploded Ordnance within NAXA	2012/6503	Not Controlled Action (Particular Manner)	Post-Approval
Santos Petrel-7 Offshore Appraisal Drilling Programme (Bonaparte Basin)	2011/5934	Not Controlled Action (Particular Manner)	Post-Approval
Schild MC3D Marine Seismic Survey	2012/6373	Not Controlled Action (Particular Manner)	Post-Approval
Schild Phase 11 MC3D Marine Seismic Survey, Browse Basin	2013/6894	Not Controlled Action (Particular Manner)	Post-Approval
Sonar and Acoustic Trials	2001/345	Not Controlled Action (Particular Manner)	Post-Approval
Songa Venus Drilling Programme, Bonaparte Basin	2009/4990	Not Controlled Action (Particular Manner)	Post-Approval
Sunshine Infill 2D and Mimosa 2D Marine Seismic Surveys	2009/4699	Not Controlled Action (Particular Manner)	Post-Approval
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
Zeemeermin MC3D seismic survey, Browse Basin, Offshore WA	2009/5023	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Zeppelin 3D Seismic Survey	2011/6148	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
2D Marine Seismic Survey	2008/4623	Referral Decision	Completed
3D Seismic Survey (NT/P68)	2006/2949	Referral Decision	Completed
Aurora extension MC3D Marine Seismic Survey	2011/5887	Referral Decision	Completed
BRSN08 3D Marine Seismic Survey	2008/4582	Referral Decision	Completed
Field efficacy trial of the Hisstory bait for feral cats, at Yampi Sound Defence Training Area, Kimb	2017/7977	Referral Decision	Completed
Nova 3D Seismic Survey, WA 442-NT/P81, Joseph Bonaparte Gulf	2013/6820	Referral Decision	Completed
Seismic Data Acquisition, Browse Basin	2010/5475	Referral Decision	Completed
Tidal Power Generation Turbine	2009/5235	Referral Decision	Completed

Key Ecological Features

[\[Resource Information \]](#)

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

Name	Region
Ancient coastline at 125 m depth contour	North-west
Carbonate bank and terrace system of the Sahul Shelf	North-west
Carbonate bank and terrace system of the Van Diemen Rise	North
Continental Slope Demersal Fish Communities	North-west
Pinnacles of the Bonaparte Basin	North
Pinnacles of the Bonaparte Basin	North-west

Biologically Important Areas

Scientific Name	Behaviour	Presence
Dolphins		

Scientific Name	Behaviour	Presence
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Breeding	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Calving	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Foraging	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Foraging (high density prey)	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Foraging likely	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Resting	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Breeding	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Breeding	Likely to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Calving	Likely to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Calving	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging	Likely to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging (high density prey)	Likely to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging (high density prey)	Known to occur

Scientific Name	Behaviour	Presence
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Significant habitat	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Significant habitat - unknown behaviour	Likely to occur
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Known to occur
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Calving	Known to occur
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Foraging	Known to occur
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Foraging likely	Known to occur
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Migration likely	Known to occur
Dugong		
Dugong dugon Dugong [28]	Foraging	Likely to occur
Dugong dugon Dugong [28]	Migration likely	Known to occur
Marine Turtles		
Caretta caretta Loggerhead Turtle [1763]	Foraging	Known to occur
Chelonia mydas Green Turtle [1765]	Foraging	Likely to occur
Chelonia mydas Green Turtle [1765]	Foraging	Known to occur
Chelonia mydas Green Turtle [1765]	Internesting	Known to occur
Chelonia mydas Green Turtle [1765]	Internesting buffer	Known to occur

Scientific Name	Behaviour	Presence
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur
Lepidochelys olivacea Olive Ridley Turtle [1767]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting	Likely to occur
Natator depressus Flatback Turtle [59257]	Internesting buffer	Known to occur
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur
River shark		
Pristis clavata Dwarf Sawfish [68447]	Foraging	Known to occur
Pristis clavata Dwarf Sawfish [68447]	Juvenile	Known to occur
Pristis clavata Dwarf Sawfish [68447]	Nursing	Known to occur
Pristis clavata Dwarf Sawfish [68447]	Pupping	Known to occur
Pristis pristis Freshwater Sawfish [60756]	Foraging	Known to occur
Pristis pristis Freshwater Sawfish [60756]	Nursing	Known to occur
Pristis pristis Freshwater Sawfish [60756]	Nursing	Likely to occur

Scientific Name	Behaviour	Presence
Pristis pristis Freshwater Sawfish [60756]	Pupping	Likely to occur
Pristis zijsron Green Sawfish [68442]	Foraging	Known to occur
Pristis zijsron Green Sawfish [68442]	Nursing	Known to occur
Pristis zijsron Green Sawfish [68442]	Pupping	Known to occur
Seabirds		
Ardena pacifica Wedge-tailed Shearwater [84292]	Breeding	Known to occur
Fregata ariel Lesser Frigatebird [1012]	Breeding	Known to occur
Fregata minor Greater Frigatebird [1013]	Breeding	Known to occur
Phaethon lepturus White-tailed Tropicbird [1014]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Resting	Known to occur
Sternula albifrons sinensis Little Tern [82850]	Breeding	Known to occur
Sternula albifrons sinensis Little Tern [82850]	Resting	Known to occur
Sula leucogaster Brown Booby [1022]	Breeding	Known to occur
Sula sula Red-footed Booby [1023]	Breeding	Known to occur

Scientific Name	Behaviour	Presence
Thalasseus bengalensis Lesser Crested Tern [66546]	Breeding	Known to occur
Sharks		
Rhincodon typus Whale Shark [66680]	Foraging	Known to occur
Whales		
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Distribution	Known to occur
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Migration	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Calving	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration (north and south)	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Nursing	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Resting	Known to occur

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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


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APPENDIX C:

RELEVANT PERSON CONSULTATION


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APPENDIX C1:

RELEVANT PERSONS CONSULTATION METHODOLOGY FOR THE BLACKTIP OFFSHORE DRILLING EP – BRIDGING DOCUMENT

 eni australia	Company document identification	Owner document identification	Rev. index.		Sheet of sheets 2 / 31
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1. INTRODUCTION

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) is responsible for regulating environmental management arrangements for offshore petroleum and greenhouse gas activities in Commonwealth waters. The primary legislation regulating these activities is the *Offshore Petroleum and Greenhouse Gas Storage (OPGGS) Act 2006* and associated regulations. When developing or revising an Environment Plan (EP) in accordance with the OPGGS Environment (E) Regulations, titleholders must consult with relevant persons.

The OPGGS Act and associated regulations provides the legal framework for the exploration and recovery of petroleum and greenhouse gas activities in Commonwealth waters (those areas more than 3 nautical miles from the territorial sea baseline). The OPGGS(E) Regulations require that a petroleum or greenhouse gas activity is undertaken in an ecologically sustainable manner, and in accordance with an accepted EP.

OPGGS(E) Regulation 25 requires a titleholder to undertake consultation with relevant authorities, persons and organisations in the course of preparing a new or a revision to an EP. Specifically OPGGS(E) Regulation 25 requires:

1. 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 Commonwealth, State or Northern Territory agency or authority to which the activities to be carried out under the environment plan may be relevant
 - b) if the plan relates to activities in the offshore area of a State—the Department of the responsible State Minister
 - c) if the plan relates to activities in the Principal Northern Territory offshore area—the Department of the responsible Northern Territory Minister
 - d) a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the Environmental Plan,
 - e) any other person or organisation that the titleholder considers relevant.
2. 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.
3. The titleholder must allow a relevant person a reasonable period for the consultation.
4. The titleholder must tell each relevant person the titleholder consults that:
 - a) the relevant person may request that particular information the relevant person provides in the consultation not be published, and
 - b) information subject to such a request is not to be published under this Part.

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This Appendix acts as a Bridging Document to the Eni Blacktip Stakeholder Management Plan (0000_DV_PR.DPM.0110.000) and outlines the approach Eni has utilised for the identification of, and consultation with, relevant persons as required under the OPGGS(E) Regulations for the petroleum activities within the Blacktip Offshore Drilling EP (000036_DV_PR.HSE.0887.000).

All relevant person consultation for the Blacktip Offshore Drilling EP has been performed in accordance with the intentions set within the Eni Blacktip Stakeholder Management Plan (0000_DV_PR.DPM.0110.000).

This Bridging Document covers:

- the process for identifying relevant persons applicable to the Blacktip Offshore Drilling EP.
- the process of consultation, including the preparation of appropriate consultation materials and forms of consultation for each relevant person identified, as well as the assessment of information and feedback received.
- all other information to demonstrate to NOPSEMA that appropriate consultation has been undertaken in accordance with the OPGGS(E) Regulations, including any additional information incorporated into the EP as a result of consultation.

Eni's strategy has been, and is, to develop and maintain long-term relationships with stakeholders (including relevant persons) in and around the Blacktip Project, both onshore at Yelcherr Gas Plant and offshore, which may result in consultation and engagement at levels above and beyond that required for the purposes of compliance with the OPGGS(E) Regulations.

It should be noted that the relevant person consultation for the Blacktip Offshore Drilling EP has been completed in conjunction with the Blacktip Offshore Operations EP (000036_DV_PR.HSE.0677.000) relevant person consultation, to avoid duplication of effort and reduce stakeholder fatigue. The environments that may be affected (EMBA) in these EPs are very similar and the relevant persons identified are the same.

1.1 Process for Relevant Person Engagement

Since Blacktip has been operational since 2009, and through the implementation of its Blacktip Stakeholder Management Plan (0000_DV_PR.DPM.0110.000), Eni has maintained relationships with local communities and other users of the marine environment in the region. Relevant persons previously identified have been continually informed of Blacktip activities and operations over the life of the asset, including those activities covered by the in-force Blacktip Operations Environmental Plan (000036_DV_PR.HSE.0677.000).

Figure 1.1 outlines the process that Eni follows across all assets, in the consideration of authentic engagement of stakeholders that have an interest in the associated activities.





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Figure 1-1: Eni’s Process for Engaging with Relevant Persons

This model has been implemented for this Bridging Document to show the clear process Eni has undertaken to identify and engage with relevant persons associated with the activities within the Blacktip Offshore Drilling EP.

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2. REGULATIONS AND GUIDELINES

Table 2-1 provides an overview of the guidance or guidelines that were considered when developing this Bridging Document and the associated consultation approach for the Blacktip Offshore Drilling EP.


Table 2-1: Guidance or Guidelines Relevant to the Consultation Approach

Guidance or Guidance Document	Content
NOPSEMA Guideline: Consultation in the course of preparing an environment plan (NOPSEMA, 2023)	Provides guidance on consultation for EPs. Focuses on the instructive reasons given by the Full Federal Court of Australia, in its appeal decision Santos NA Barossa Pty Ltd v Tipakalippa [2022], FCAFC 193 (appeal decision), on 2 December 2022.
NOPSEMA Guideline: Consultation with Commonwealth agencies with responsibilities in the marine area (NOPSEMA, 2022a)	Provides guidance on consultation for EPs, specifically Australian Government agencies with responsibilities in the Commonwealth marine area.
NOPSEMA Guidance Note: Responding to public comment on environment plans (NOPSEMA, 2022b)	Provides guidance on consultation for EPs. Reflects NOPSEMA's interpretation of the requirements of the OPGGS(E) Regulations.
NOPSEMA Guidance Note: Petroleum activities and Australian Marine Parks (NOPSEMA, 2020)	Provides guidance on managing petroleum activities risks and impacts to Australian Marine Parks and to support consultation with the Director of National Parks.
NOPSEMA Guideline: Environment Plan decision making (Doc#: N-04750-GL1721, 2024)	Sets out NOPSEMA's considerations in making decisions in accordance with the legislated criteria relevant to EPs. Some clear definitions are extracted from this guideline.
Interim Engaging with First Nations People and Communities on Assessments and Approvals Under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (DCCEEW, 2023)	Outlines the statutory obligations that apply to, and DCCEEW's expectations of, proponents engaging with First Nations people and communities under the EPBC Act.
Consultation approach for unplanned events (WAFIC, 2023)	Outlines Western Australian Fishing Industry Council's preferred consultation strategy for significant unplanned events (e.g. oil spill) where titleholders can demonstrate the likelihood of such events occurring is extremely low.
Australian Fisheries Management Authority: Petroleum industry consultation with the commercial fishing industry (AFMA, 2023)	Provides information for the petroleum industry on how to consult with the Commonwealth commercial fishing industry.


The definitions in **Error! Not a valid bookmark self-reference.** have been used as the basis for the approach to identifying and consulting with relevant persons and have been referred to throughout this Bridging Document.

Table 2-2: List of Definitions


Definition	Description
Activities	In relation to sub-regulation 25(1) of the OPGGS(E) Regulations, something that a person or group does. This is likely directed to what the relevant person is already doing'.
Blacktip Project	Refers to the Blacktip Project as a whole, both onshore (Yelcherr Gas Plant) and offshore components.
Consultation period	Defines the general consultation period during development of the EP. The consultation period is set within the email to the relevant person and is at least a six-week period (30 business days). This is a default initial expected response period unless there is justification for an alternative period. Where dialogue with relevant persons is ongoing after this period, Eni will continue to consult with relevant persons until Eni believes it has provided sufficient evidence/justification to close the consultation.

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Definition	Description
EMBA	The environment that may be affected, as defined in Section 4.1 of the EP. Broadly, it is the area within which the environment that may be affected from both planned and unplanned activities, encompassing the outermost boundary of the worst-case spatial extent of the credible hydrocarbon release scenarios
EP Implementation Engagement	Following the consultation period, arrangements for ongoing consultation with relevant authorities, persons, and organisations is included in the implementation strategy, in order to demonstrate that there is an effective two-way communication process in place between the titleholder and those relevant persons (as per OPGGS(E) Regulations Subsection 22[15]).
Environment Plan	Refers to the Blacktip Offshore Drilling EP.
Functions	In relation to subregulation 25(1) of the OPGGS(E) Regulations. Functions refer to a power or duty to do something.
Interests	In relation to subregulation 25(1) of the OPGGS(E) Regulations. Interests represent a connection to the values described in the EP. Any interest possessed by an individual, whether or not the interest amounts to a legal right or is a proprietary or financial interest or relates to reputation. However, an interest does not extend to general public interest in an activity.
Interested person	A person who may have an interest in the activities but is not a relevant person.
Objection or claim	<p>May include:</p> <ul style="list-style-type: none"> • An expression of opposition, protest, concern or complaint about the proposed activities. • A request or demand that certain action be taken by the titleholder to address adverse impacts. • An assertion that there will be an adverse impact. • An allegation to cast doubt about the manner in which the activities will be managed.
Operational Area	The spatial boundary of the Blacktip drilling, as defined in Section 3.3.1. of the EP. The area encompassing all planned activities to be undertaken by Eni including the spatial extent within which impacts from planned activities can or will occur, such as operational discharges.
Petroleum activities	The petroleum activities referred to within the Blacktip Offshore Drilling EP.
Reasonable period	A reasonable time for relevant persons to consider the effect of a proposed activity on their functions, interests or activities and have opportunity to make a response detailing any objections or claims. Defined by the consultation period.
Reasonable attempt	Making reasonable attempts to make contact with all identified relevant persons for the EP (where a reasonable and workable avenue exists). Recognising that specific consultation methods of engagement and ways to pass on information may be more appropriate for certain groups of relevant persons.
Relevant matter	A matter raised by a relevant person that has been assessed as being relevant to the activity. May also include a request for further relevant information, or provision of information that is relevant to the activities.
Relevant person	Can be a person, organisation, department or agency that falls within one of the categories as defined by subregulation 25(1) of the OPGGS(E) Regulations; however, it does not include those whose functions, interests or activities will only be affected by an activity in an immaterial or negligible way.
Sensitive information	Captures personal information about an individual that is contained in information given by a relevant person in the consultation period or any person during public comment on a seismic or exploratory drilling EP - as defined in S.5 of the OPGGS(E) Regulations.
Subject matter experts (SME)	Specialists from either within Eni or contracting to Eni, such as engineers, Aboriginal Affairs experts, Environment team members and other technical experts relative to an activity.
Values	<p>Values described in the EP, broadly:</p> <ul style="list-style-type: none"> • natural values • cultural and heritage values • socioeconomic values.

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Definition	Description
ZPI	The zone of potential impact (or moderate exposure zone) as defined in Section 8.5 and shown in Figure 4.1 of the EP. This zone is smaller than the EMBA and may be representative of an area of biological impact from hydrocarbons (refer Section 8.5 for more information).

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3. RELEVANT PERSON IDENTIFICATION AND ANALYSIS

To identify relevant persons, the required inputs include:

- a description of the petroleum activities detailed within the EP
- the spatial footprint of the petroleum activities, being the:
 - Operational Area
 - The zone of potential impact (ZPI)
 - The environment that may be affected (EMBA)
- an assessment of the impacts and risks from both planned and unplanned events.

Eni works through a relevant person identification process, including coastline, nearshore and Sea Country scopes, to ensure all potentially relevant persons are identified and afforded the opportunity to comment on the petroleum activities. Broadly, this identification process includes:

- a review of Eni's stakeholder database, including relevant persons consulted for other relevant activities in the area
- a review of legislation and guidelines applicable to petroleum and marine activities to ensure relevant administrative and regulatory agencies are consulted
- identification of marine user groups and interest groups active in the area, such as commercial fisheries, charter operators and Traditional Owner groups
- a review of the Commonwealth, Northern Territory (NT) and Western Australian (WA) fisheries data, including licence holders of relevant fisheries
- discussions with other identified relevant persons and industry organisations to identify other potentially relevant persons.

Opportunities for self-reporting relevance are presented through the engagement process and are encouraged; for example, by providing contact details on the materials provided to relevant persons.

3.1 Relevant Person Identification

An initial list of relevant persons for the EP was compiled by a third-party subject matter expert, with subsequent reviews and workshops attended by relevant Eni personnel. The Relevant Persons Register (Appendix C2) presents the list of the currently identified relevant persons. Outside of this EP, Eni will continue to review and update its Blacktip Stakeholder Register, throughout the lifecycle of the broader Blacktip Project (e.g., whenever new potential relevant persons and interested persons are identified).

In circumstances where there is uncertainty as to whether the functions, interests or activities of a person, organisation, department or agency may be affected by the petroleum activities, these persons are categorised as a relevant person in the first instance (under subregulation 25 1e), any other person or organisation that the titleholder considers relevant).

Each relevant person has been classified into one of the categories as defined by subregulation 25(1) (a)-(e) of the OPGGS(E) Regulations.


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Table 3-1 presents the categories and examples of those relevant persons against the identifiers required under subregulation 25(1) (a)-(e) of the OPGGS(E) Regulations.


Table 3-1: Relevant Person Categories

Category	Definition	Examples of relevant persons
25(1) a	Each Commonwealth, State or Northern Territory agency or authority to which the activities to be carried out under the environment plan may be relevant;	This category includes, but is not limited to, Commonwealth, State and Northern Territory departments or agencies regulating the activities in the Operational Area, such as Department of Climate Change, Energy, the Environment and Water, Department of Agriculture, Fisheries and Forestry, NT Department of Environment, Parks and Water Security, NT Department of Infrastructure, Planning and Logistics, WA Department of Primary Industries and Regional Development, etc..
25(1) b	If the plan relates to activities in the offshore area of a State—the Department of the responsible State Minister;	This category includes the associated mining, energy and/or resources department/s for State Minister of Western Australia.
25(1) c	If the plan relates to activities in the Principal Northern Territory offshore area—the Department of the responsible Northern Territory Minister;	This category includes the associated mining, energy and/or resources department/s for Minister for Northern Territory.
25(1) d	A person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the environment plan	This category includes but is not limited to, relevant persons such as Aboriginal land councils/prescribed body corporate representatives, industry (e.g., commercial fishing, tourism) representative bodies, and other industries (e.g., fisheries, petroleum) that overlap within the EMBA.
25(1) e	Any other person or organisation that the titleholder considers relevant	This category includes any other relevant persons, as determined by Eni during the relevant person identification process.


It is understood that during the consultation process, new information may become available to inform the extent of effect of an activity on a relevant person's functions, interests or activities, which may result in an identified relevant person being removed from the Relevant Persons Register (Appendix C2). For example, a relevant person identified by Eni may advise that they do not believe they are relevant, or new information may become available which further informs/clarifies a relevant person's actual functions, interests or activities which are not to the extent as previously perceived by Eni.

Eni also maintains a database of interested persons, being those who may have an interest in the Blacktip Project (onshore and offshore components), but not be a relevant person. This database is included in the Blacktip Stakeholder Management Plan (0000_DV_PR.DPM.0110.000).

Figure 3-1 summarises the process of identifying relevant persons for this EP.

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The detail and data sources used for relevant persons identification for the EP are presented in Table 3-2, along with relevant persons categorisation under subregulation 25(1).

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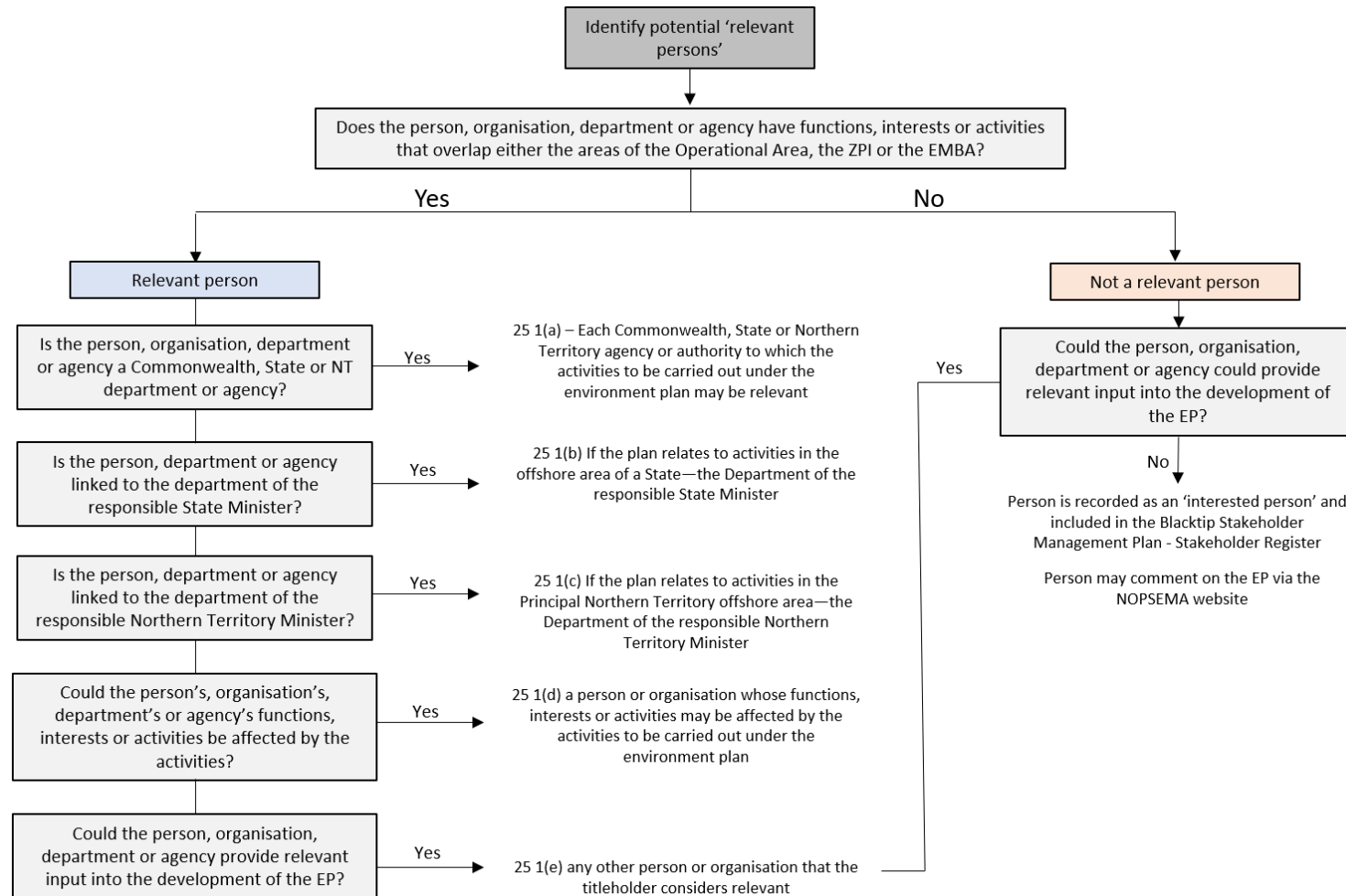


Figure 3-1: Determination of relevant persons




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Table 3-2: Data sources and the factors considered when identifying relevant persons

Category	Data sources	Factors considered in relevant person determination
Government departments and agencies and ministers	<p>The data sources that were used to determine potentially relevant Government departments, agencies and ministers are:</p> <ul style="list-style-type: none"> relevant data previously obtained during Blacktip activities consultation http://www.directory.gov.au/departments-and-agencies https://www.wa.gov.au/agency https://nt.gov.au/about-government/government-agencies https://nt.gov.au/about-government/the-cabinet https://parliament.nt.gov.au/members https://www.parliament.wa.gov.au/parliament/memblast.nsf/WAMembers https://www.wa.gov.au/government/premier-and-cabinet-ministers Current Ministry List – Parliament of Australia (aph.gov.au) Relevant Decision Makers (nopta.gov.au). 	<p>Government departments and agencies defined under subregulation 25(1) a are deemed relevant where their functions or activities overlap the Operational Area, ZPI and/or EMBA.</p> <p>Relevant persons defined under subregulation 25(1) b and c, are limited to departments of responsible State/Northern Territory ministers that are representatives of the Offshore Petroleum Joint Authorities for offshore areas adjacent to where the activities occur.</p>
Local government authorities (LGAs)	<p>The following data sources were used to determine potentially relevant LGAs:</p> <ul style="list-style-type: none"> relevant data previously obtained during Blacktip activities consultation NT Councils Local Government Association of the Northern Territory WA Online Local Government Directory Western Australian Local Government Association. 	<p>Only LGAs with coastal boundaries and where shoreline contact is predicted are deemed relevant.</p> <p>Consideration given to whether an LGA is located in an area (or in the vicinity) of the Blacktip Project long-term area of operational presence.</p>
First Nations	<p>The following data sources were used to determine potentially relevant First Nations and community organisations:</p> <ul style="list-style-type: none"> relevant data previously obtained during Blacktip activities consultation (e.g., during meetings/community events) input from internal and external technical subject matter experts National Native Title Tribunal Register of Native Title Claims and Determinations Aboriginal and Torres Strait Islander people’s ranger groups (e.g., Thamarrurr Rangers) Marine Park Management Plans previous work established by Eni in the Thamarrurr region (e.g., sea country mapping exercise) KRED Enterprises expertise and unique knowledge of the Traditional Owner groups in the Kimberley. 	<p>PBCs, Native Title Representative bodies and organisations representing First Nations people who are associated with the ZPI and/or EMBA are considered relevant persons (category 25(1) d) conservatively, on the basis of uncertainty as to whether their functions, interests or activities would be affected by activities.</p> <p>Prescribed Bodies Corporate (PBCs), Native Title representative bodies and organisations representing First Nations people who are not associated with the ZPI and/or EMBA and are not associated with coastal areas are excluded.</p>


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Category	Data sources	Factors considered in relevant person determination
Commercial fishing (licence holders, fisheries, associations/ councils) and recreational fishing associations	<p>The following data sources were used to determine potentially relevant commercial and recreational fishers and associated organisations:</p> <ul style="list-style-type: none"> relevant data previously obtained during Blacktip activities consultation Commonwealth, State and Territory fishery management areas historic fishing effort data databases, fishery reports or publications developed by relevant Commonwealth, State and Territory departments requests for licence holder details AFMA list of fishing industry associations (petroleum industry consultation with the commercial fishing industry Australian Fisheries Management Authority (afma.gov.au)). 	<p>Only those commercial fisheries with fishery management areas that overlap the ZPI and/or EMBA are considered relevant persons.</p> <p>Only recreational fishing associations with activities that overlap the ZPI and/or EMBA are considered relevant persons.</p> <p>Consideration given to whether fisheries are impacted by planned Blacktip petroleum activities.</p>
Businesses	<p>The following data sources were used to determine potentially relevant Chambers of Commerce, fishing charters and tourism operators:</p> <ul style="list-style-type: none"> relevant data previously obtained during Blacktip activities consultation operator data previously obtained subject matter expertise Online web searches. 	<p>Only businesses reliant on marine or coastal environments were considered relevant if they overlapped areas of the ZPI and/or EMBA.</p> <p>Consideration given to whether a business is located in an area of the Blacktip Project long-term area of operational presence.</p>
Oil and gas or greenhouse gas titleholders	<p>The following data sources were used to determine potentially relevant oil and gas or greenhouse gas titleholders:</p> <ul style="list-style-type: none"> relevant data previously obtained during Blacktip activities consultation National Offshore Petroleum Titles Administrator title search and use of interactive map subject matter expertise Online web searches. 	<p>Consideration given to whether a titleholder is located in the vicinity (within approximately 100 km radius) of the petroleum activities.</p>
Environmental organisations (non-government)	<p>The following data source was used to determine potentially relevant environmental organisations:</p> <ul style="list-style-type: none"> relevant data previously obtained during Blacktip activities consultation subject matter expertise Online web search for those with an active interest in areas of WA and the NT. 	<p>Non-government organisations are limited to those with invested local interests within the Operational Area, ZPI and/or EMBA (i.e., State, Territory and local area organisations), and other organisations that have self-identified as being relevant due to a specific function, interest or activity that directly relates to the possible consequences of the activity.</p>

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3.2 Self-Identified Relevant Persons

Promulgation of consultation materials may result in the self-identification of additional relevant persons. Eni welcomes self-identified relevant persons and effort has been made to facilitate this through extended enquiry (refer Section 5.2). The opportunity exists for such persons to contact Eni, via Eni's specific email address. In this scenario, newly identified relevant persons are consulted in the manner described in this Bridging Document. Further, new relevant persons have been added to the Relevant Persons Register (Appendix C2).

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4. RELEVANT PERSON CONSULTATION PLANNING

4.1 Provision of Information to Relevant Persons

Subregulation 25 (2) of the OPGGS(E) Regulations provides that:

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 of activities or the relevant person.

In accordance with the above, when developing consultation materials, the information to be provided to relevant persons in high-level materials (e.g., EP fact sheets) are:


- summary of activity description, including location, timing and duration, including distances from the Australian coastline and a map with coordinates listed.
- high-level description of the environment that may be exposed in relation to values associated with the EMBA, such as marine protected areas and protected species habitats.
- summary of potential impacts associated with the activity, including a high-level description of emissions, discharges and wastes.
- summary of management controls to be implemented.
- statement of reasons as to why the relevant person is being consulted.

The information provided is to also seek advice from the relevant person as to next steps for consultation and Eni's expectations on a response (i.e., what information is being sought, within what timeframe and how the information will be used).

On request by a relevant person, or in a situation where Eni have not received responses following two attempts of email communication, further communication methods will be used to exchange the above information, such as:

- written documentation (e.g., presentation materials/slides).
- verbal communication during telephone calls (pre-emptory or in response or follow-up), targeted meetings, information sessions.

Regardless of the method applied, the information provided is targeted to reduce the information burden on the relevant person, to reduce the possibility of confusion or misinformation, and to improve the likelihood of receiving feedback from the consultation process.

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4.2 Planning and Preparing for Consultation

In order to prepare for effective consultation to have taken place, a number of strategies were applied to ensure all relevant person groups: appropriately received all information; were provided a reasonable opportunity for input; and were given opportunity to participate in genuine two-way dialogue.

Planning and preparation included:

- Preparation of content, lay-out and QR code for newspaper advertisements and preparation of script for radio advertisements.
- Development of high-level resources (e.g., EP Fact sheets / information packages).
- Tailored content preparation for consistency of message in correspondence, emails and phone calls and follow-up phone calls.
- Preparation of other targeted materials (e.g., slides and handouts), for distribution at meetings and roadshows (in person and online).

Note: the materials used during consultation with First Nations relevant persons have been included in Appendix C3.

4.2.1 Specific Consultation Approaches and Information Requirements


Some relevant persons have developed guidance documents or have information on their websites, which outline specific information they require from a titleholder during EP consultation. Any specific guidance (identified in Section 2) was also utilised when preparing consultation materials and engagement approaches.

The below provides details of the specific consultation approaches for certain relevant persons.

Other Petroleum or Greenhouse Gas Titleholders

Given other titleholders have an understanding of the industry and the potential consequences of associated activities, Eni provided a factsheet to titleholders who have known ongoing operational interests within proximity (approximately 100 km radius) of the petroleum activities Operational Area, via email. It is recognised some titleholder within the EMBA may not be captured in this method; however, given these titleholders are not impacted by planned activities, Eni considers this a reasonable approach.

Eni followed up with these titleholders as appropriate to their functions, interests and activities, with a focus on those with known operational interests closest to the petroleum activities Operational Area.

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Commercial Fishers

The designated licenced areas of many of the fisheries are extensive over the Australian coast, including within the EMBA. The EP provides an assessment of the potential interaction of these fisheries with the petroleum activities, based on the nature of the fishery and historic effort and catch data. Based on this data and historic consultation efforts for the Blacktip Project petroleum activities, it was determined that the only commercial fishery with effort in proximity (approximately 50 km) to the petroleum activities is the Northern Prawn Fishery.

Given all planned petroleum activities occur within the already in place 500 m petroleum safety zone around the wellhead platform, interaction with commercial fisheries is not anticipated (refer to the EP) for the drilling activities. Whilst the peak bodies representing the commercial fisheries are considered by Eni to be established representatives of the fishing licence holders, and were provided with consultation materials, Eni went further to ensure direct engagement with individual license holders whose fishing management or licence area overlaps the EMBA. To avoid unnecessary consultation fatigue with individual licence holders and in consideration of the long-established activities at the Blacktip Project, and the activities occurring within an already established petroleum safety zone, Eni has determined this the most appropriate means of consultation. Eni has also sent individual licence holders consultation material in the past for the Blacktip Project petroleum activities and has not received responses.


The Northern Prawn Fishery peak body is to be provided with more detailed specific information about the proposed activities at its request. Eni has also established consultation with the Northern Prawn Fishery peak body for historic Blacktip Project petroleum activities.

First Nations Relevant Persons

Subject matter experts have provided guidance on culturally appropriate consultation approaches for First Nations relevant persons to inform the engagement.

In the first instance, Eni utilised land councils and registered PBCs recognised under the *Native Title Act* and other land rights legislation (e.g., *Aboriginal Land Rights (Northern Territory) Act*), to facilitate consultation with First Nations relevant persons. This initial consultation was used as a first line of enquiry and, where applicable, used to facilitate further identification and engagement with other First Nations relevant persons.

Engagement with First Nations persons has been conducted in a culturally appropriate manner, ensuring local traditions, customs and protocols are considered prior to scheduling engagements.

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Thamarrurr Region Engagement

Eni already has a partnership with the Thamarrurr Development Commission – Thamarrurr Rangers to map the ecological and cultural values of Sea Country in the Thamarrurr Region. The results of this mapping exercise were published by Streten *et al.* (2020) in the Australian Petroleum Production and Exploration Association Journal under the title 'Mapping traditional ecological knowledge of Sea Country to understand biodiversity and areas of cultural importance'. Eni continues to maintain strong relationships with the Thamarrurr Rangers. During the most recent engagement of direct face-to-face communication in Wadeye, Eni distributed flyers to ensure the opportunity for self-identification of further relevant persons within the Wadeye community.

Eni published an advertisement in the Wadeye newsletter with the aim for relevant persons to self-identify and attend a community booth set up in Wadeye.

Further to this, Eni initiated engagement through Wadeye Regional Council and provided information about Eni's activity. Noting the continual waves of unrest and conflict across the community since 2022, with violent surges recently in December 2023 to February 2024, Eni has been resolute in facilitating an ongoing engagement process in the Thamarrurr Region through Eni's attendance at monthly community meetings.

Kimberley Region Engagement

After several unsuccessful attempts of seeking support from Kimberley Land Council, Eni took the initiative to engage KRED Enterprises (<https://www.kred.org.au/>) to facilitate engagement with First Nations people within the Kimberley. KRED was selected due to:


- KRED's experience/connection through *Native Title Act* around WA
- KRED's plans and abilities to facilitate meetings with Traditional Owner groups linked to the EMBA
- referrals from other titleholders.

Eni, with support from KRED Enterprises, identified PBCs that fall within the EMBA (through the process in Table 3-2, and noting KRED Enterprises' expertise and unique knowledge of the Traditional Owner groups in the Kimberley) and commenced initial engagement through emails. Emails were sent by KRED, which included flyers with summary information on Eni's process to prepare the EP, as well as invitation for relevant persons to self-identify.

KRED then arranged for roadshow or site visits to all the PBCs captured within the EMBA to hold public gatherings or targeted meetings.

Broader NT Engagement including Tiwi Islands

Engagement with Northern Land Council (NLC) was initiated with meetings and emails, mainly seeking support with community engagement. Eni was advised by NLC to proceed with the community engagements without involvement of NLC.

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Eni sought the support of Tiwi Land Council in engaging with Traditional Owners or relevant person within the Tiwi Islands.

4.3 The Consultation Period

As defined in Table 2-2, for consultation to be effective, relevant persons need to be afforded a 'reasonable period' to identify the effect of the proposed activity. For the EP, Eni set a default consultation period of 30 business days, based on the nature and scale of impact or risk to the relevant persons. It is noted an adequate period of time needs to be provided for the relevant person to receive the information provided, to make an evaluation of the information which may include third party input, and to then prepare and provide a response to Eni. As such, where there is justification for an alternative period, due to the need to extend the period, this will be implemented.

The consultation period with relevant persons during development of the EP was outlined within the consultation material (2023 Blacktip Drilling Material Factsheet) at initially 31 July (approximately six weeks). However, where no response was received from a relevant person, subsequent deadlines for receiving comments were set. Eni has continued to follow up with relevant persons and has left the consultation period open up to 22 April 2024 to exhaust all offered opportunities for consultation to occur. This then adds up to an in-total 10-month duration with appropriate follow-up of relevant persons since the consultation period commenced.. It should also be noted that:

- Eni originally submitted materials to relevant persons during development of the EP in 2022. At the time of the Federal Court of Australia appeal decision in December 2022 (Santos NA Barossa Pty Ltd v Tipakalippa [2022]), the EP was under assessment by NOPSEMA and previous consultation for the submission had been made between July and September 2022.
- Since the Blacktip facilities have been operational since 2009 and Eni is familiar with local communities and other users of the marine environment in the region, previously identified relevant persons have been continually informed of Blacktip activities and operations over the life of the asset.

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5. CONSULTATION METHODOLOGY WITH RELEVANT PERSONS

Following assessment of regulations and guidelines; relevant person identification and analysis; and relevant person engagement planning, this section (linked to Figure 1.1: *Eni's Process for Engaging with Relevant Persons*) describes the actual stakeholder engagement with relevant persons to take place.


5.1 Consultation Approach

Following the planning for consultation which included development of high-level resources; scripting of correspondence messaging; tailored email/phone content preparation; preparation of other targeted materials; and development of a tool to consider whether consultation has appropriately been achieved, Eni implemented the following consultation approach:

1. Issuance of emails providing summary of activity and seeking response from stakeholders should they wish to consult (Where self-identified, further review to confirm and respond to any objection/claim).
2. Email and high-level information pack distribution to all stakeholders with default response period of 30 business days.
3. Mail-out of high-level information pack distribution to selected stakeholders upon receipt of direct addresses – default response period of 30 business days.
4. Phone calls as a follow up to initial email to all relevant persons with functions, interests or activities that overlap with the EMBA (or low exposure zone) and the ZPI (or moderate exposure zone).
5. Where phone numbers are available, further phone/email/text messages to follow up calls & emails to identified relevant persons.
6. Review of Relevant Persons Consultations Log (Appendix C4a) to ensure appropriate consultation with relevant persons has taken place.

A range of other engagement methods were considered and offered as appropriate, including the following:

- Announcement, ahead of time, of visits to relevant persons, through subject matter experts / associations that relate to regional stakeholders.
- Targeted materials (e.g., slides & handouts), distributed via meetings/roadshows with question-and-answer sessions (both in person and online).
- In person meetings/roadshows with support from subject matter experts / associations where targeted materials were distributed alongside the opportunity for question-and-answer sessions.
- Online meetings where targeted materials were issued and discussed alongside the opportunity for question-and-answer sessions.
- Where no response received, further tailored emails, direct phone calls and texts by stakeholder focal point to directly engage with relevant persons with functions,

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interests or activities that overlap the ZPI (or moderate exposure zone) and with the EMBA (or low exposure zone).

- Further attempts to directly engage with relevant persons who have not responded, with stakeholder focal point utilising tailored emails, direct phone calls and texts.

5.2 Extended Enquiry (Broader Consultation)

There may be instances where other persons, organisations, departments or agencies may consider themselves relevant and wish to be included in the consultation process. Therefore, as an additional proactive step to provide an opportunity to identify new relevant persons, Eni undertook:

- leafletting during roadshows or site visits (e.g., leaving consultation material leaflets in community centres and high traffic areas)
- local newspaper advertisement campaigns
- Advertisements on local radio stations.

The objective of this approach was to help identify any other relevant persons (through an opportunity to self-identify) that may not have already been identified as per category (and OPGGS(E) 25(1) e in Table 3.1.


Note that the extended enquiry approach also provided another means of broadcasting information to existing relevant persons.

5.3 Follow-Up with No Response

Eni considers it advantageous to follow up with a relevant person on information provided for several reasons, particularly in the circumstance of documentation being provided by email or mail:

- to confirm that the information has been received.
- to enquire as to any questions on the information provided and if more/different information is required to enable the relevant person to make a sound consideration.
- to support Eni's position that a consultation period is adequate for the relevant person to respond to the information provided.
- as a common courtesy and an opportunity to build a relationships with the relevant person, particularly in the interests of EP Implementation engagement.

It is also appreciated that relevant persons are not obligated to respond to a titleholder request to participate in the consultation process. In cases where no response has been received from a relevant person, after multiple relevant follow-ups, and where sufficient information and a reasonable period of time has been afforded to the relevant person, Eni then considers consultation to be closed for the purposes of the consultation period for the preparation of the EP.

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As shown in Figure 5-1, if no acknowledgement or response was received from attempts to contact a relevant person, as per Appendix C4a, Eni attempted alternative methods of contact, where this information was available. For example, this included phone calls, using alternative email addresses, or identifying an alternative contact person.

Eni recognises that email information may not be appropriate for some relevant persons (e.g., some Traditional Owner groups), and other engagement methods were subsequently used.

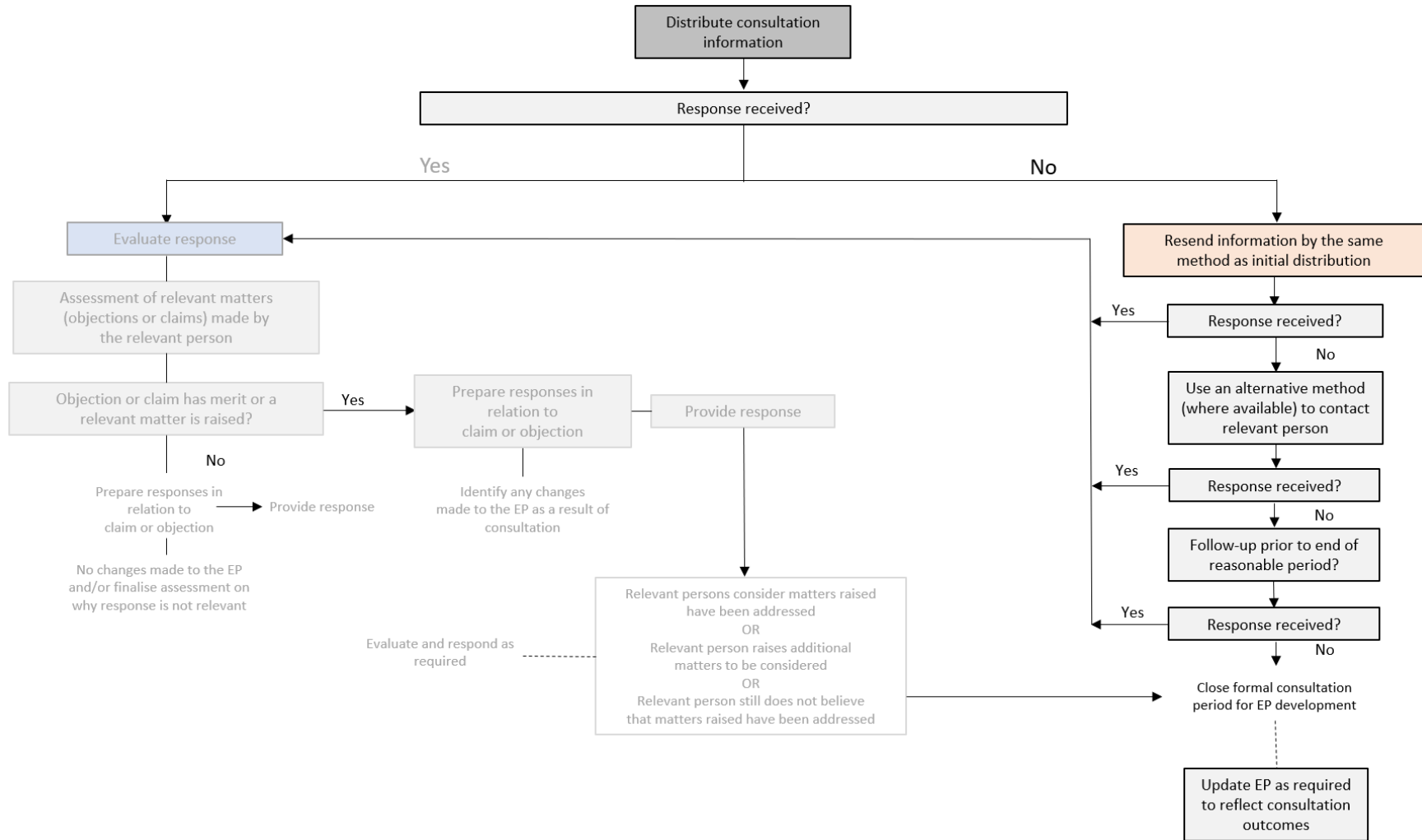



Figure 5-1: No Response Follow-up Flow Chart

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6. MONITORING OF RELEVANT PERSON CONSULTATION

6.1 Monitoring Consultation and Closing Consultation Period


Tracking progress for all relevant person consultation occurs through completion of the *Relevant Person Consultation Log* (Appendix C4a). This Log is derived from the *Relevant Persons Register* (Appendix C2) where all relevant persons have been identified and then transferred to the Log. This Consultation Log captures the number, and methods of consultation for each relevant person including, but not limited to emails, direct phone call canvassing, direct mail, follow ups, and face-to-face and virtual meetings.

In terms of considering whether consultation has appropriately been achieved for each relevant person, a monitoring system utilising relevant person groupings was established (Table 6-1) and this, combined with the process outlined in Figure 5-1 (No Response Follow-up Flow Chart), enables Eni to assess whether there has been enough attempted approaches made to allow consultation for development of the EP to be closed.

Note that relevant person groupings as per Table 6-1 have been represented in Appendix C2 and again in Appendix C4a.

Table 6-1: Ensuring Appropriate Consultation with Relevant Person Groups

Group	Description	Consultation
Group 1	<ul style="list-style-type: none"> Relevant persons with functions, interests or activities that are associated with the Operational Area who may be affected by planned activities' 	<p>Relevant person must be informed/consulted/involved (where the relevant person <i>wishes</i> to be consulted) during E.P. preparation to ensure targeted and tailored information is provided by titleholder focal point/s regarding planned activity.</p> <p>These relevant persons also experience extended enquiry notifications, broader, focused higher-level consultation, targeted and tailored information sharing.</p> <p>(i.e., newspaper ads with QR code that e-links to information package; radio ads; multiple email follow up; scheduled phone calls; coordinated roadshow visits; meetings and/or presentations; issue of tailored information packages; and responsiveness to clarifications on request).</p> <p>May include further meetings or presentations upon request.</p>
Group 2	<ul style="list-style-type: none"> Relevant persons with functions, interests or activities that are associated with the ZPI (or moderate exposure zone) who may be affected by unplanned activities (i.e. spills) and who require information 	<p>Relevant person to be approached/ informed/ consulted during E.P. preparation to ensure targeted and tailored information is provided by titleholder focal point regarding planned activity.</p> <p>These relevant persons also experience extended enquiry notifications and broader, focused higher-level consultation.</p> <p>(i.e., newspaper ads with QR code that e-links to information package; radio ads; multiple email follow up; scheduled phone calls; coordinated roadshow visits; meetings and/or presentations; issue of tailored information packages; and responsiveness to clarifications on request).</p>
Group 3	<ul style="list-style-type: none"> Relevant persons with functions, interests or activities that are associated with the EMBA (but not the OA or ZPI) who may be affected by 	<p>Relevant person to be approached, informed and consulted via broader, focused higher-level consultation during E.P. preparation with targeted and tailored information provided regarding planned activity.</p>


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	unplanned activities and who may have an interest and/or expectation to be informed about the unplanned activities	(i.e., newspaper ads with QR code that e-links to information package; radio ads; email and phone follow up)
Group 4	<ul style="list-style-type: none"> Any other relevant persons who may be indirectly impacted or have interests in the unplanned activities. Includes extended enquiry for persons who may not be known to Eni. 	Relevant person to be consulted via extended enquiry to notify of the activities during E.P. preparation. (i.e., newspaper ads with QR code that e-links to information package; radio ads; follow up emails).

Table 6-1 above enables comprehension of the following planned sequential processes for consultation throughout EP preparation:

1. Direct engagement between all Eni key focal points (across disciplines) and relevant persons with functions, interests or activities that overlap with the **Operational Area** through providing tailored information with scheduled phone/email/meeting follow up to invite comments.
2. Targeted emails with tailored information and phone calls specifically to identified relevant persons with functions, interests or activities that overlap with the **EMBA** (low exposure zone). Initial default response period of 30 business days (unless there is justification for an alternative period) inviting comments.
3. Follow-up targeted emails and phone calls (within the 30-day response period) to the above identified relevant persons with functions, interests or activities that overlap with the EMBA (low exposure zone) to ensure receipt of information and to invite comments.
4. Eni stakeholder focal point providing tailored information to relevant persons with functions, interests or activities that overlap the **ZPI** (moderate exposure zone) who may be affected by unplanned activities (i.e., spills) through targeted emails and phone calls. Initial default response period of 30 business days (unless there is justification for an alternative period) inviting comments.
5. Further scheduled phone/email follow up within 30-day response period; roadshow visits; meetings and/or presentations; and provision of detailed responsive correspondence upon request, to relevant persons with functions, interests or activities that overlap the ZPI (moderate exposure zone).
6. Notification to all potentially relevant persons of the activities via newspaper advertisements with a QR code that links the audience to the tailored information package. Additional notification via radio advertisements.

It should be noted that this '*relevant person groupings system*' is only to monitor the sufficiency of allowing for a reasonable opportunity for input, and for determining whether consultation for development of the EP can be closed. The groupings system is not linked to any application and/or interpretation of information received from Relevant Persons in the groups. For information received from any Relevant Persons, this is addressed via the process outlined in Section 6.3, '*Assessment of Merit - Objections or Claims and Relevant Matters*'.

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6.2 Monitoring Responses Received

Given one of the purposes of consulting relevant persons is to gather information that allows confirmation of assumptions made during the impact and risk assessment process for the petroleum activities, the assessment step of consultative responses is imperative to successfully undertaking and completing the petroleum activities.

Where relevant persons provided specific responses to Eni in relation to the Blacktip Drilling EP, these are extracted from the *Relevant Person Consultation Log* (Appendix C4a) and recorded into the *Relevant Persons Consultations Feedback Assessment* (Appendix C4b).

When responses were received, an assessment of relevant matters, claims or objections has been undertaken so that an appropriate response can be provided (where appropriate) to the relevant person, and appropriate steps taken to address the matter.


6.3 Assessment of Merit - Objections or Claims and Relevant Matters

Eni's assessment of relevance and assessment of merit for the EP has considered the following:

- **Objection or claim has merit** – the objection or claim raised is relevant to both the petroleum activities and the relevant person's or organisation's functions, activities or interests. The objection or claim has merit if there is a reasonable/scientific basis for related effects or impacts to occur or there is a reasonable basis for the objection or claim to be addressed in the EP.
- **Objection or claim does not have merit** – the objection or claim raised may be relevant to the petroleum activities or the relevant person's or organisation's functions, activities or interests; however, the objection or claim raised has no credible or scientific basis.
- **Relevant matter** – the matter raised does not fit the criteria descriptions for objections or claims with or without merit. However, the matter raised is relevant to the petroleum activities, comprises a request to Eni for further relevant information, or provides information to Eni that is relevant to the EP development and petroleum activities.
- **Not a relevant matter** – correspondence does not relate to the planned activity or the relevant person's, or organisation's functions, interests or activities being affected by the petroleum activities, such as a response with specific issues raised (or acknowledgement).

Figure 6-1 below summarises the process outlined in Section 6.2 and 6.3 above. Application and/or interpretation of all information received from Relevant Persons occurs in alignment with OPGGS(E) Regulation 24, which requires Eni to provide:

- responses made by relevant persons.
- an assessment of the merits of any objection or claim by relevant persons.
- statements of Eni's response to each objection or claim; and
- a copy of the associated response, if received, by the relevant person.

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A report on all consultations of relevant persons under OPGGS(E) Regulation 25, can be found in Appendix C4a and C4b, which includes all details dot-pointed above.

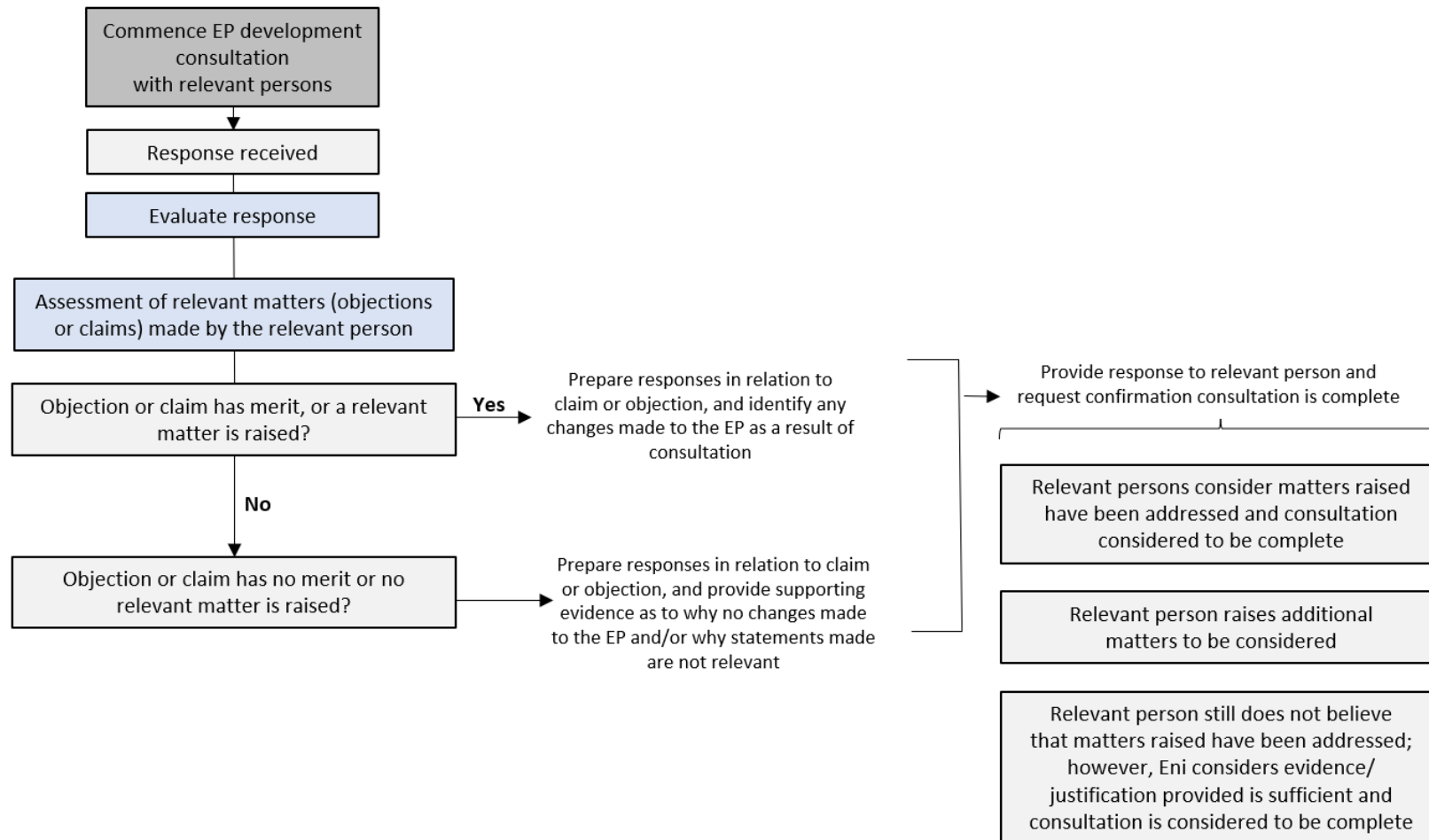



Figure 6-1: Assessment of relevant matters

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6.4 Updates to the Environment Plan to Incorporate Consultation Feedback

6.4.1 Consultation Report

Appendix C4b (*Relevant Persons Consultations Feedback Assessment*) the 2023 Consultation Report, and Appendix C5 (2022 Consultation Report) overview all consultations between the titleholder and a relevant person [regulation 24(b)] undertaken throughout both 2023 and 2022. The consultation reports contain:


- a summary of each response made by a relevant person.
- an assessment of the merits of any objection or claim about the adverse impact of each activity to which the EP relates.
- a statement of Eni's response, or proposed response, if any, to each objection or claim; and
- a copy of the full text of any response by a relevant person.

6.4.2 Sensitive Matters Report

Notwithstanding Section 6.4.1. above, it is noted, as per Regulation 26(8) of the OPGGS(E) Regulations, that the EP must not contain any sensitive information other than in the sensitive information part of the EP.

Sensitive information will, be submitted in a separate report (referred to as the *Sensitive Matters Report*) and does not form part of the publicly available EP.

The Sensitive Matters Report contains a record of all consultation activities undertaken with relevant persons for the EP. The includes all outgoing and incoming emails and phone logs and any sensitive information contained in meeting slides used for presentations, handout materials and meeting minutes.

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7. EP IMPLEMENTATION ENGAGEMENT


Throughout the execution of the planned activities, as per section 22(15) of the OPGGS(E) Regulations, relevant interested persons and organisations engagement for the Blacktip offshore drilling and associated petroleum activities will be ongoing. Eni key focal points will continue to work with relevant persons and organisations to address any future concerns if they arise throughout the duration of the EP in the context of the associated activities. Should any new relevant interested persons and organisations be identified, they will be added to the stakeholder database and included in all future engagement as required, including specific activity notifications.

An ongoing engagement process is occurring in the Thamarrurr Region through Eni's attendance at monthly community meetings.

In addition to any EP consultation process, as a matter of best practice and outside of regulatory compliance, Eni conducts external relations engagement visits with stakeholders located in, or near the areas where it operates. In the Australian jurisdiction, this includes the Kimberley and Northern Territory regions. Eni operates under the assumption that it is good corporate social responsibility to engage with stakeholders within or near its footprint; it looks to build partnerships and potential long-term value proposition opportunities; and by continuing to talk to stakeholders within or near its footprint, Eni can gain better knowledge of the context, needs and interests of these stakeholders.

Although outside of the 'preparation of EP' and 'execution of planned activities' consultation processes, this engagement assists with the building and maintaining of relationships to facilitate the ability for consultation to occur.

Eni will continue to accept feedback from all relevant persons and organisations throughout the duration of the accepted EP. Where any new information is received, that is assessed as a new relevant matter or objection/claim with merit, the EP will be updated in accordance with the Management of Change process described in the EP, ensuring risks remain managed to acceptable and as low as reasonably practicable levels. Additional consultation with relevant persons will occur in the event there is any significant change to the proposed activities.

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APPENDIX C2:

RELEVANT PERSONS REGISTER


Relevant Person	Target Group	Functions, Interests and Activities	Relevant person category under OPGGS(E)Regs Section 25(1) (Table 2.1 of Appendix C1)	Basis of selection for relevant persons engagement during development of this EP
Government				
Commonwealth Government				
Australian Communications & Media Authority (ACMA) within the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDC) (Cth)	Group 1	Administrator of submarine cable protection zones. Relevant when active activity may impact on subsea cables.	25(1)(a)	Provide advise on whether the activities may have impact on subsea cables.
Australian Fisheries Management Authority (AFMA) (Cth)	Group 1	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.	25(1)(a)	Commonwealth Fishery boundaries extend from 3nm to the EEZ within which Eni Australia activities occur.
Australian Hydrographic Office (AHO) (Cth)	Group 1	AHO is part of the Department of Defence, responsible for providing Australia's national charting service under the terms of SOLAS and the <i>Navigation Act 2012 (Cth)</i> . 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.	25(1)(a)	Need to be kept informed of location of activities so the notice to mariners can be published.
Australian Maritime Safety Authority (AMSA) (Cth)	Group 1	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	25(1)(a)	Publish radio and navigation warnings for activities in the Commonwealth marine area. AMSA provide specific information to be included in the EP (notifications).
Clean Energy Regulator (CER) (Cth)	Group 1	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.	25(1)(a)	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.
Department of Agriculture, Fisheries & Forestry (DAFF) (Cth)	Group 1	Responsible for ensuring management processes are implemented, such as limits on catch or effort levels, and regulations of fishing methods to manage Australia's fisheries in a sustainable way. Also responsible for managing biosecurity threats to Australia.	25(1)(a)	DAFF have advised they wish to be engaged where there is possible disruption to Commonwealth fisheries.
Department of Defence (DOD) (Cth)	Group 1	Responsible for Australian defence activities. Relevant when the activity encroaches on known training areas and /or restricted airspace.	25(1)(a)	The Operational Area overlaps the training area R202G and the North Australia Exercise Area (NAXA).
Department of Foreign Affairs and Trade (DFAT)	Group 3	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).	25(1)(a)	Relevant when the activity may impact on waters outside Australia's maritime jurisdiction (such as an oil spill).
Department of Industry, Science & Resources (DISR) (Cth)	Group 3	DISR is responsible for development and reform of policy relating to the resources sector, including oil and gas.	25(1)(a)	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)	Group 1	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. DCCEEW requires notification of any harm or mortality to an EPBC-listed species of marine fauna.	25(1)(a)	Responsible for the management of Australian Marine Parks, provision of advice on management of activities located in AMPs or in proximity. The ZPI overlaps with Australian Marine Parks and a national heritage property.
Maritime Border Command (MBC), part of Australian Border Force (ABF), part of the Department of Home Affairs (DHA)	Group 3	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.	25(1)(a)	Can advise whether activity may impact on border protection activities (e.g. vessel patrols).
National Offshore Petroleum Titles Administrator (NOPTA) (Cth)	Group 1	NOPTA is responsible for the day-to-day administration of petroleum & greenhouse gas titles in Commonwealth waters in Australia.	25(1)(a)	The Blacktip activities are operating under a petroleum title, administered by NOPTA.
Office of Northern Australia (ONA), within the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDC) (Cth)	Group 3	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.	25(1)(a)	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.
Northern Territory Government				
Aboriginal Areas Protection Authority (AAPA) (NT)	Group 3	AAPA is an independent statutory authority established under the Northern Territory Aboriginal Sacred Sites Act, responsible for overseeing the protection of Aboriginal sacred sites on land and sea across the whole of Australia's Northern Territory. Can provide information on registered	25(1)(a)	NT government agency with a function to protect Aboriginal sacred sites on both land and sea that falls within the EMBA. Can provide information on registered sacred sites within the EMBA.
Department of Environment, Parks and Water Security (DEPWS) (NT)	Group 3	Protect the environment and natural resources in the Northern Territory, including marine fauna management.	25(1)(a)	Relevant when activities may impact on marine or coastal values (such as an oil spill). The EMBA extends into NT waters.

Department of Industry Tourism and Trade (DITT) (NT)	Group 2	The Department of Industry, Tourism and Trade is the Northern Territory coordinating agency for economic and industry development. The Department administers and regulates petroleum tenure and activities in within the Territory's coastal waters. This includes petroleum resource exploration and development and the construction and operation of oil and gas facilities and transmission pipelines. The Department manages Northern Territory commercial fisheries. Relevant when the activity has the potential to impact on fisheries resources in Northern Territory managed fisheries.	25(1)(a)	Some NT fisheries (whose boundaries may extend beyond NT waters) are located in the ZPI. Impacts to commercial fishing in the NT from activities described in the EP.
Northern Territory Environment Protection Authority (NTEPA)	Group 3	NTEPA is an independent authority established under the Northern Territory Environment Protection Act. NTEPA provides advice on the environmental impacts of development proposals and advice and regulatory services to encourage effective waste management, pollution	25(1)(a)	NT government agency with a function to regulate pollution events in the NT. The EMBA extends into NT waters.
Northern Territory Gas Taskforce (NT)	Group 3	The Gas Taskforce drives the Northern Territory Government's vision for the Territory to become a world class hub for gas production, manufacturing and services by 2030.	25(1)(a)	Relevant as a supporter of the industry sector and potential facilitator in dealing with urgent project matters to do with Northern Territory Government Departments and Agencies.
Northern Territory Regional Harbourmaster, part of the Department of Infrastructure, Planning and Logistics (DIPL) (NT)	Group 3	Responsible for moorings in the Port of Darwin. Relevant when the activity could impact on Port operations.	25(1)(a)	Relevant when the activity could impact on Port operations (such as an oil spill).
<i>Western Australian Government</i>				
Department of Biodiversity, Conservation and Attractions (DBCA) (WA)	Group 2	Manage State marine parks and reserves and protected marine fauna and flora.	25(1)(a)	Relevant when activities undertaken outside of a marine park may impact on the values within a marine park (such as an oil spill). The ZPI overlaps with some state reserves.
Department of Mines, Industry Regulation and Safety (DMIRS) (WA)	Group 2	The mission of DMIRS is to support a safe, fair and responsible future for the Western Australian community, industry and resources sector. The DMIRS Resource and Environmental Regulation Group is responsible for regulating one of Western Australia's largest industry sectors, and plays a critical role in building Western Australia's economy while ensuring the State's resources are developed in a sustainable and responsible manner.	25(1)(a)	Department of responsible WA Minister who sits on the Offshore Petroleum Joint Authority. Planned activities occur in the Commonwealth marine environment offshore areas of WA. Notifications are required for drilling and seismic activities. The ZPI enters into WA state waters.
Department of Planning, Lands & Heritage (DPLH) (WA)	Group 3	Protect aboriginal heritage, assist with compliance with the Aboriginal Heritage Act 1972 and provide access to heritage information.	25(1)(a)	Can advise on Registered Aboriginal sites and known onshore places of heritage within EMBA. Relevant if the activity results in impacts to Aboriginal heritage (such as an oil spill).
Department of Primary Industries and Regional Development (DPIRD) (WA)	Group 2	A primary responsibility of the DPIRD 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	25(1)(a)	Can provide information on marine protected areas/protected species and fisheries. Further, can provide information on management controls implemented to manage marine pest risks associated with the activities. The ZPI enters into WA state waters.
Department of Transport (DOT) (WA)	Group 2	In accordance with the Western Australian Emergency Management Act 2005 (the Act) and Emergency Management Regulations 2006 (the Regulations), the WA DoT is the Hazard Management Agency (HMA) for the Marine Oil Pollution (MOP) hazard in State waters. The MOP hazard is prescribed in the Regulations as an: 'actual or impending spillage, release or escape of oil or an oily mixture that is capable of causing loss of life,	25(1)(a)	Informs the development of the Blacktip OPEP - preparedness and response as they relate to State Control Agency functions. The ZPI enters into WA state waters.
<i>Fisheries</i>				
<i>National Fisheries</i>				
Austral Fisheries	Group 1	Austral Fisheries is one of Australia's largest integrated commercial fishing companies. They operate 11 of the 52 licensed vessels in the Northern Prawn Fishery.	25(1)(d)	Integrated commercial fishing company that may be operating in the Operational Area.
A Raptis & Sons	Group 1	A Raptis & Sons owns and operates 15 commercial fishing vessels in the northern prawn and NT demersal fishery zones.	25(1)(d)	Privately owned integrated fishing company that may be operating in the Operational Area.
Commonwealth Fisheries Association (CFA)	Group 1	The peak body representing the collective rights, responsibilities and interests of a diverse commercial fishing industry in Commonwealth regulated fisheries.	25(1)(d)	Represent commercial fishers with fishing management areas that overlap with the Operational Area, ZPI and EMBA.
Northern Prawn Fishing (NPF) Industry Pty Ltd	Group 1	The NPF Industry Pty Ltd is a collective of trawler operators, processors and marketers acting together as a single voice for the industry in the Northern Prawn Fishery, which occurs between Cape York to the Kimberley's.	25(1)(d)	Fishery management area overlaps the Operational Area, ZPI and EMBA. The Operational Area falls within a low effort fishing intensity area.
Pearl Producers Association (PPA)	Group 3	Peak representative organisation of the Australian South Sea Pearling Industry.	25(1)(d)	Represent WA and NT pearling companies operating within the EMBA.
Seafood Industry Australia (SIA)	Group 2	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.	25(1)(d)	Represent commercial fishers operating in the ZPI and EMBA.
<i>Northern Territory Fisheries</i>				

Northern Territory Seafood Council (NTSC). Full NT Seafood Council Membership is through ownership of a professional fishing licence in the Northern Territory. These licenses included : Bait Net Fishery Offshore Net & Line Fishery Spanish Mackerel Fishery Coastal Line Fishery Demersal Fishery Barramundi Fishery Pearl Oyster Fishery 56 individual license holders represented by NTSC were sent letters.	Group 1	Represents the seafood industry in the Northern Territory. May operate within the Operational Area, ZPI or EMBA.	25(1)(d)	Fishing management areas that members operate in overlaps with the Operational Area, ZPI and EMBA.
Northern Wildcatch Seafood Australia (NWSA)	Group 2	NWSA is an Australian company specialising in catching and selling tropical fin fish such as snapper, emperor and cod and the provision of charter services to the oil and gas sector, government and research institutions. NWSA ships fresh product all over Australia from the Port of Darwin, with three vessels fishing throughout the year. May operate within the EMBA.	25(1)(d)	Commercial fishery that may be operating in the EMBA
<i>Western Australian Fisheries</i>				
Western Australian Fishing Industry Council (WAFIC) which represents: -Kimberley Gillnet & Barramundi Fishery -Kimberley Prawn Fishery -Kimberley Crab Fishery	Group 2	Peak industry body representing the interests of the Western Australian commercial fishing, pearling and aquaculture sectors. May operate within the ZPI or EMBA.	25(1)(d)	Represent commercial fishers with license areas that overlap the ZPI and EMBA.
<i>Aboriginal and Torres Strait Islander/ First Nations Community</i>				
<i>National</i>				
Northern Australian Indigenous Land & Sea Management Alliance (NAILSMA)	Group 3	NAILSMA is an Indigenous led not-for-profit company operating across northern Australia, working to assist Indigenous people manage their country sustainably for future generations, by providing Indigenous leadership in the delivery of large-scale and complex programs that meet the environmental, social, cultural, and economic needs of Indigenous people across northern Australia. Relevant when the activity could impact on the coastline, coastal waters and sea country.	25(1)(d)	Relevant persons whose function may indirectly be impacted in emergency conditions as the EMBA extends into NT waters.
<i>Northern Territory</i>				
Larrakia Nation Aboriginal Corporation	Group 3	The Larrakia Nation Aboriginal Corporation was established in 1997 through the Northern Land Council, to provide a corporate identity for Larrakia people to uphold Native Title claims, to represent the Traditional Owners of the Darwin region and to speak on behalf of Larrakia people while delivering community and outreach services to the broader Darwin community, including land and sea Rangers. The Larrakia Rangers work across Larrakia land and sea country, which comprises the greater Darwin region west across the Cox Peninsula and east to the Adelaide River.	25(1)(d)	LNAC represents Traditional Owners who may have sea country that overlaps the EMBA. Located in an area of long term Eni operational presence.
Northern Land Council (NLC)	Group 2	The NLC is an independent statutory authority of the Commonwealth, responsible for assisting Aboriginal peoples in the Top End of the Northern Territory to acquire and manage their traditional lands and seas.	25(1)(d)	The NLC's Native Title Act statutory area of responsibility overlaps the ZPI.
Thamarrurr Development Corporation (TDC), including the Thamarrurr Rangers representative of the Traditional Owner Groups: Rak Wudipuli Rak Thinti Rak Perrederr Rak Nuthunthu Rak Nganthawudi Rak Namarluk Rak Nadirri Rak Merrepen Rak Kuy Rak Kungarbarl Rak Kulingmirr Rak Kubiyrir Rak Kimmu Rak Angilini Yek Diminin Yek Maninh Yek Nangu Yek Ngudanimarn Yek Wunh Yek Yederr Note: Consultation within the Wadeye Community was organised in coordination with TDC. Board members of TDC are representatives of 20 clans in Wadeye.	Group 2	TDC is a not-for-profit corporate entity owned by members of the Wangka, Lirga and Tjanpa peoples. TDC has been established by the 20 clans of the Thamarrurr Region, to represent them in relation to business, socio-economic development, employment and training. Blacktip YGP is in the Thamarrurr region and the Rangers assist on Blacktip activities.	25(1)(d)	The TDC represents Thamarrurr people in an area adjacent to the EMBA. There could be areas of sea country that do overlap within the Joseph Bonaparte Gulf Marine Park and nearshore Wadeye. Blacktip YGP is in the Thamarrurr region and the Rangers assist on Blacktip activities.

<p>Tiwi Land Council (TLC) - representative of the following Traditional Owner Groups: Jikilaruwu Malawu Mantiyupwi Marrikawuyanga Munupi Yimpinari Wurankuwu Wulirankuwu</p>	Group 3	The Tiwi Land Council represents all Tiwi people in the protection of our land, sea and environment, while at the same time supporting sustainable economic development to improve Tiwi lives through employment, income, education and health opportunities.	25(1)(d)	The TLC represents the interests of Traditional Owners with country that overlaps with the EMBA.
Western Australia				
Balanggarra Aboriginal Corporation RNTBC	Group 2	Kimberley Coastal PBC. Administers land on behalf of the Balanggarra People. Located in the Northern Kimberley. The EMBA extends close to declared sea country	25(1)(d)	Traditional Owner group with potential sea country that overlaps with ZPI.
Bardi Jawi Niimidiman Aboriginal Corporation RNTBC	Group 3	Kimberley Coastal PBC. Represent Traditional Owners located in the Dampier Peninsula and surrounding sea country. The EMBA extends close to declared sea country.	25(1)(d)	Traditional Owner group with potential sea country that overlaps with EMBA.
Gogolanyngor Aboriginal Corporation	Group 3	Kimberley Coastal PBC. Located North of Broome on the Dampier Peninsula and represents Traditional Owners in this area. The EMBA extends close to declared sea country.	25(1)(d)	Traditional Owner group with potential sea country that overlaps with EMBA.
Kimberley Land Council (KLC)	Group 1	Peak Indigenous body in the Kimberley region.	25(1)(d)	The KLC's Native Title Act statutory area of responsibility overlaps the Operational Area.
Mayala Inninalang Aboriginal Corporation	Group 3	Kimberley Coastal PBC. Located East of the Dampier peninsula and encompasses the Buccaneer Archipelago and the surrounding sea country. The EMBA extends close to declared sea country.	25(1)(d)	Traditional Owner group with potential sea country that overlaps with EMBA.
<p>MG Corporation - representative of the following Traditional Owner Groups: Miriungung and Gajerrong #1 (Native Title PBC) Aboriginal Corporation RNTBC</p>	Group 2	Indigenous organisation in the East Kimberley, MG Corporation is committed to building a strong economic and social base for MG people beyond the life of the OFA by pursuing an inclusive economic development agenda, while protecting and enhancing MG culture and heritage. The EMBA extends close to declared sea country.	25(1)(d)	Relevant as ZPI may overlap with MG sea country.
Nyangunmartka Karajarri Aboriginal Corporation and Karajarri Traditional Lands Association (Aboriginal Corporation) RNTBC	Group 3	Kimberley Coastal PBC. Located South of Broome and encompasses adjacent sea country West of Broome. The EMBA extends close to declared sea country.	25(1)(d)	Traditional Owner group with potential sea country that overlaps with EMBA.
Nyul Nyul PBC Aboriginal Corporation	Group 3	Kimberley Coastal PBC. Located in the Central Dampier Peninsula. Nominated as trustee of the Jabirr Jabirr/Ngumbardi, Nyul Nyul, and Nimanburr peoples' native title. The EMBA extends close to declared sea country.	25(1)(d)	Traditional Owner group with potential sea country that overlaps with EMBA.
Walalakoo Aboriginal Corporation RNTBC	Group 3	Kimberley Coastal PBC. Key political, social and economic body representing the Nyikina Mangala people of the Kimberley region in Western Australia. The EMBA extends close to declared sea country.	25(1)(d)	Traditional Owner group with potential sea country that overlaps with EMBA.
Wanjina-Wunggurr (Native Title) Aboriginal Corporation RNTBC	Group 2	Kimberley Coastal PBC. Represents the Traditional Owners of the Wunaamin Milliwundi Ranges East of Broome. The EMBA extends close to declared sea country.	25(1)(d)	Traditional Owner group with potential sea country that overlaps with ZPI.
Warrwa People Aboriginal Corporation RNTBC	Group 3	Kimberley Coastal PBC. Located East of Derby represents the traditional Owners of this area. The EMBA extends close to declared sea country.	25(1)(d)	Traditional Owner group with potential sea country that overlaps with EMBA.
Yawuru Native Title Holders Aboriginal Corporation	Group 3	Kimberley Coastal PBC. Coastal PBC that surrounds Broome. Holds and manages native titles of the Yawuru people. The EMBA extends close to declared sea country.	25(1)(d)	Traditional Owner group with potential sea country that overlaps with EMBA.
Business				
National Businesses				
Australian Maritime Oil Spill Centre (AMOSC)	Group 1	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.	25(1)(d)	Provide support for oil spill response activities.
Moonson Aquatics	Group 3	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. May operate within the EMBA.	25(1)(d)	Could be affected in the result of an hydrocarbon spill. May operate within the EMBA.
Oil Spill Response Limited (OSRL)	Group 1	OSRL is the largest international industry-funded oil spill response cooperative, and provides preparedness, response and intervention services anywhere in the world.	25(1)(d)	Relevant due to the immediate availability of support in recovering from an oil spill event.
Vocus Communications (based in WA)	Group 3	Relevant due to presence of North West Cable system in vicinity of Joseph Bonaparte Gulf	25(1)(d)	May provide information on subsea cables that may traverse the Operational Area.
Northern Territory Businesses				
Amateur Fishermans Association of the Northern Territory (AFANT)	Group 3	AFANT represents recreational fishers in the Northern Territory through membership and input on a range of fisheries and natural resource management committees.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.

Anglers Choice Fishing Safaris	Group 3	Anglers Choice Fishing Safaris operates from Dundee Beach on the Cox Peninsula, providing offshore fishing experiences. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Arafura Bluewater Charters	Group 3	Arafura Bluewater Charters operates from Darwin, specialising in bluewater reef and game fishing charters. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Cannon Charters	Group 3	Cannon Charters operates from Darwin, offering multi-day fishing experiences along the Northern Territory and Kimberley coast. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Clearwater Fish (Clearwater Island Lodge Fishing charter)	Group 3	Clear Water Island Lodge is a small business providing sport-fishing lodge in NT. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Darwin Harbour Fishing Charters	Group 3	Darwin Harbour Fishing Charters operates from Darwin, providing offshore and onshore fishing. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Darwin Port	Group 2	Darwin Port is operated by Darwin Port Operations Pty Ltd which is part of the Landbridge Group. The Landbridge Group is a private company based in Rizhao city in Shandong Province in China, operating businesses in China and Australia. The Darwin Port operates commercial wharf facilities at East Arm Wharf and the cruise ship terminal at Fort Hill Wharf.	25(1)(d)	May provide a function (i.e., spill response activities) in the event of emergency conditions.
Dundee Beach Fishing Charters	Group 3	Dundee Beach Fishing Charters operates from Dundee Beach on the Cox Peninsula, providing offshore fishing experiences. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Equinox Fishing Charters	Group 3	Equinox Fishing Charters operates from Darwin, providing offshore fishing experiences. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Fish Darwin	Group 3	Fish Darwin operates from Darwin, providing offshore fishing experiences. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Melville Lodge	Group 3	Melville Island Lodge situated on the shores of Snake Bay. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Northern Territory Guided Fishing Industry Association (NTGFIA)	Group 3	NTGFIA is the industry body for guided fishing and recreational fishers. The Guided Fishing activity includes the use of mother ships moored offshore from which multi-day recreational fishing expeditions are based.	25(1)(d)	Represents recreational fishers which have the potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Offshore Boats Fishing Charters	Group 3	Offshore Boats Fishing Charters operates from Darwin, providing offshore fishing experiences. May have tourism activities that occur within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Darwin Red Devil Fishing Charters	Group 3	Red Devil Fishing Charters operates from Darwin, providing offshore fishing experiences. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Seafarms Group Ltd	Group 3	Developer of land-based prawn aquaculture project (Sea Dragon) in the Northern Territory. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Tiwi Island Adventures	Group 3	Tiwi Island Adventures operates from two remote locations on the Tiwi Islands - Melville Island Lodge situated on the shores of Snake Bay and Johnson River Camp situated in the upper reaches of the Johnson River on the east coast of Melville Island. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Yknot Fishing Charters	Group 3	Yknot Fishing Charters operates from Darwin, providing fishing charters to as far as the Tiwi Islands and as far West as the Peron Islands. May operate within the EMBA.	25(1)(d)	Potential to be affected in the case of an hydrocarbon spill as the EMBA extends into NT waters.
Western Australian Businesses				
Marine Tourism Association of Western Australia (MTWA)	Group 3	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.	25(1)(d)	Tourism activities could be affected in the result of an hydrocarbon spill.
RecFish West (WA)	Group 3	Peak body representing recreational fisheries in Western Australia. May represents recreational fishers who may operate in the EMBA.	25(1)(d)	Represents recreational fishers who may operate in the EMBA
Oil & Gas				
EDG Resources Australia	Group 2	Titleholder and operator of permit WA-488-P.	25(1)(d)	Known oil and gas industry activities that overlaps with the ZPI.
Kulpec	Group 3	Operator of permit WA-538-P.	25(1)(d)	Known oil and gas industry activities that overlaps with the EMBA.
Inpex	Group 2	Relevant due to activities in the region	25(1)(d)	Known oil and gas industry activities that overlaps with the ZPI.
Melbana Energy	Group 2	Titleholder of NT/P87 & WA-544-P.	25(1)(d)	Known oil and gas industry activities that overlaps with the ZPI.
Neptune Energy	Group 2	Titleholder of WA-27-R. Neptune Energy Group was acquired by Eni in January 2024, including the Banaparte Basin assets.	25(1)(d)	Known oil and gas industry activities that overlaps with the ZPI.
Santos	Group 2	Titleholder of WA-454-P & WA-545-P	25(1)(d)	Known oil and gas industry activities that overlaps with the ZPI.
NGOs				
Conservation Council of Western Australia (CCWA)	Group 4	The CCWA is a non-government conservation and environment organisation which represents environmental groups from WA.	25(1)(e)	Has an interest in conservation in WA.
Environment Centre Northern Territory (ECNT)	Group 4	The ECNT is a not-for-profit, community sector environment organisation.	25(1)(e)	Has an interest in protecting biodiversity and ecosystems in the NT.
Self Identified Relevant Persons				
Self Identified Relevant Person	Group 4	Self - identified relevant person responded to newspaper advertisement	25(1)(e)	Self identified thorough broad capture efforts.

	eni australia	Company document identification 000036_DV_PR.HSE.0887.000	Owner document identification	Rev. index.	
				Validity Status	Rev. No.
				PR-OP	04

APPENDIX C3:

CONSULTATION MATERIALS

Consultation Materials

2023-08-31-Blacktip EP Community Engagement at Wadeye_R02- Final Presentation.....	2
2023-10-24 Blacktip Eps_Community Engagement Presentation	3
2023-10-24 Blacktip Eps_Community Engagement(004) Presentation	4
Wadeye Community Newsletter Advertisement for Consultation	5
Blacktip Drilling Flyer: 000036_DV.PR.HSE.1194.000_00.....	6
Newspaper and Radio Advertisements	7

2023-08-31-Blacktip EP Community Engagement at Wadeye_R02-
Final Presentation



Blacktip Environment Plan

Community consultation

Wadeye

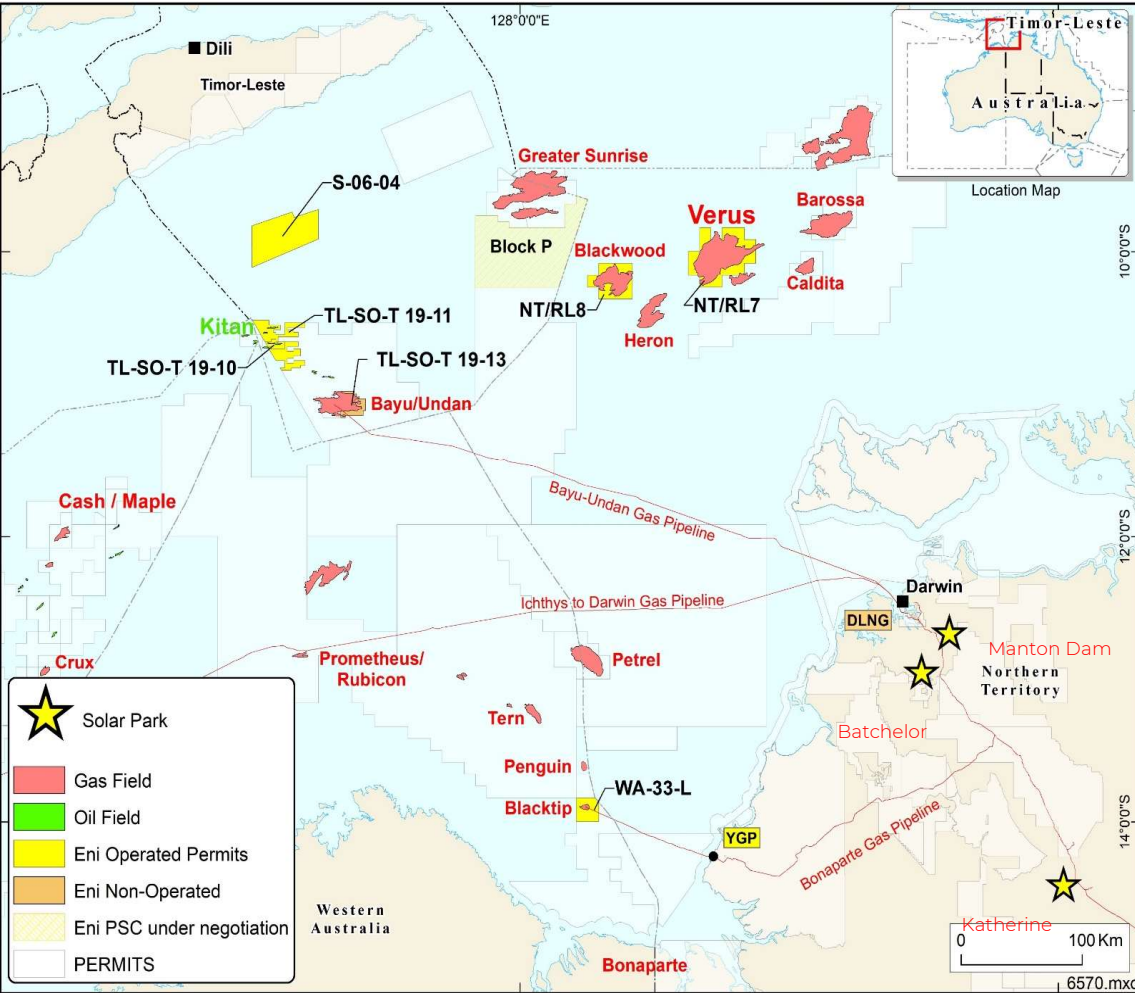
31 August 2023

Objective of the consultation



- Here to listen
- Eni's activities in Australia and Timor - Leste
- Consultation with the community in Wadeye, NT
- Updating activities in Blacktip
- Preparation to finalise Drilling Environment Plan and Operation Environment Plan
- Estimated timeline for submission of Environment Plans

Eni in Australia and Timor Leste



Key Facts

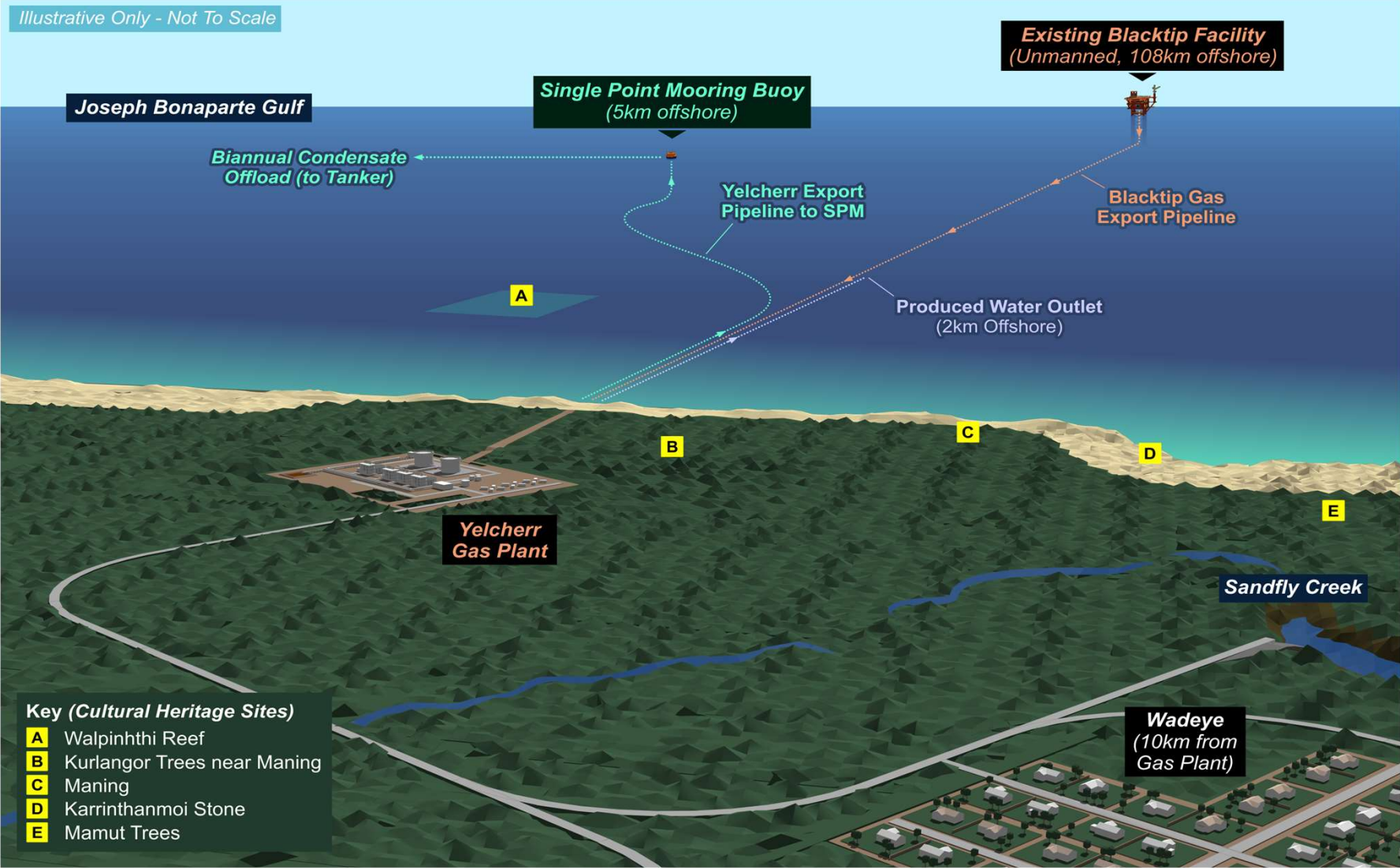
Gas Production

- 100% owned & operated Blacktip Gas Project
- Blacktip supplied 30.4 petajoules of gas to Territory and East Coast customers in 2021.
- Providing almost all of the Territory's gas needs to generate electricity for homes, industry and commerce.
- Bayu-Undan Gas Field and Darwin LNG Project (11% Eni)
- Blacktip provides 100% of the gas supply for Wadeye power generation.

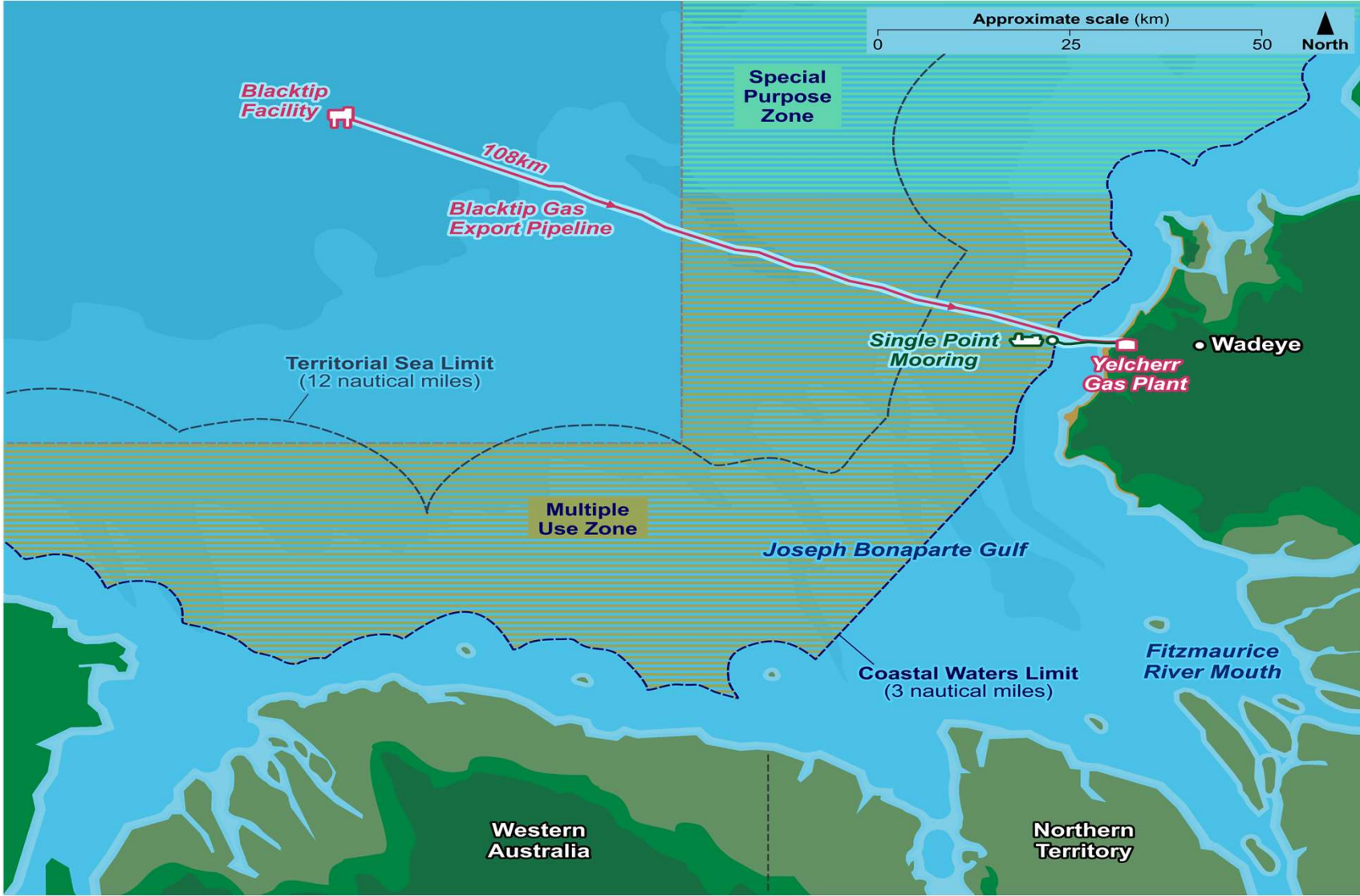
Renewables

- 3 Solar Plants in the NT (total capacity 59 Megawatts)

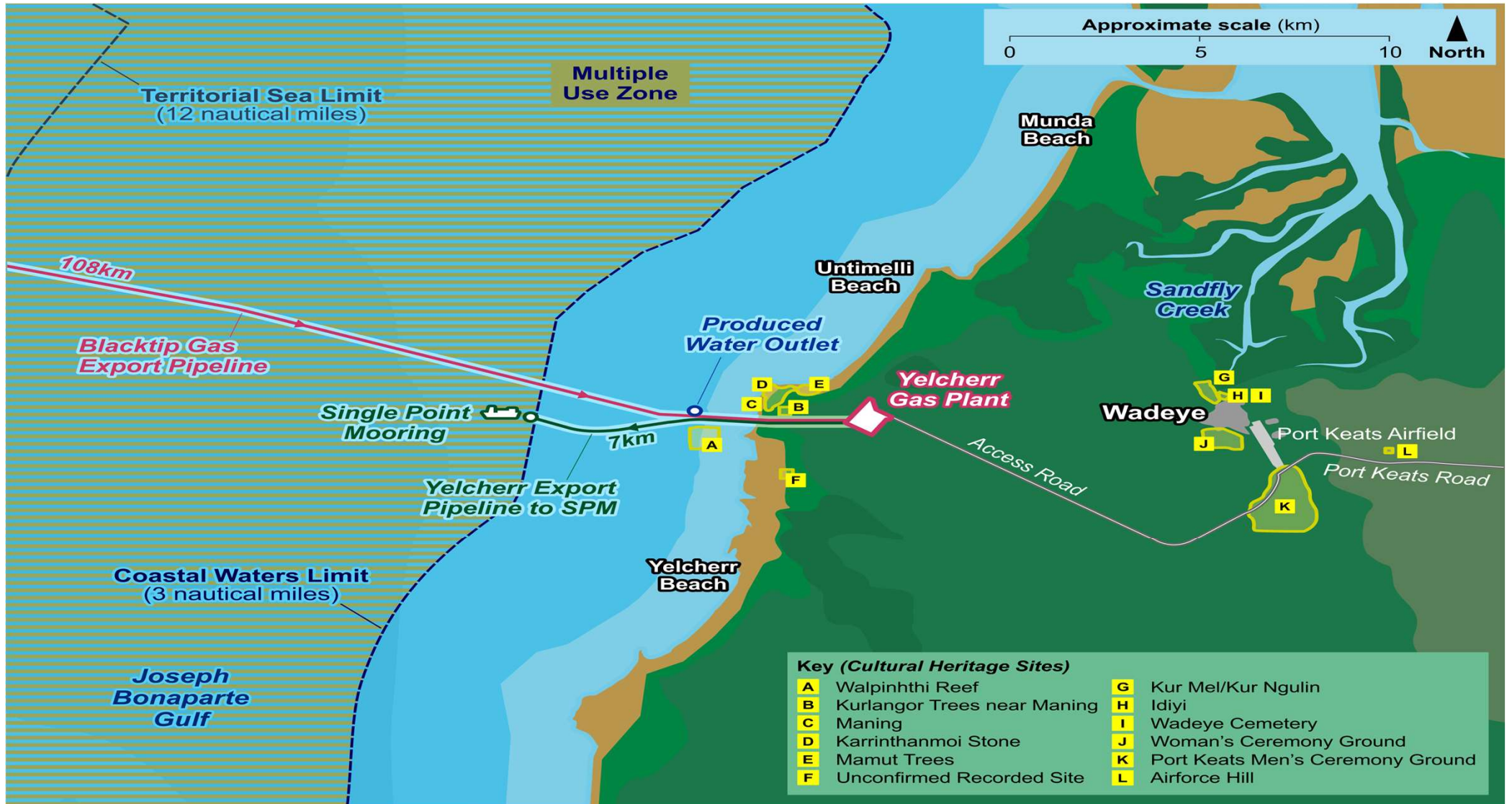
Blacktip Project location



Blacktip Project location



Blacktip Project location





Operations Activity Summary

Operations at the Blacktip Offshore Facility in Commonwealth waters include:

- wellhead platform and pipeline production operations
- surface and subsea infrastructure activities, inspections and maintenance (as required)
- tanker vessel off-takes of condensate from the single point mooring (twice per year)
- well intervention activities (as required)
- support vessel operations for the activities listed above.

Drilling Activity summary

The following activities will occur during drilling of the additional development well:

- site survey (if required)
- jack-up drilling rig placement
- drilling and cementing top hole section
- installation of the blowout preventer
- drilling intermediate and production hole sections
- cementing production casing
- well completion and clean-up, including flaring.

JU – drilling rig over Blacktip platform



Potential Environmental Impact & Mitigation Measure



Activity Description

- Noise emissions generated through the operation of the rig, (e.g. jack-up and drilling)
- Noise from support vessels and helicopters

Potential Impact

- Marine mammals and turtles are transitory and, given the low frequency and limited duration of the activities behavioral impacts are expected to be temporary and at the individual level only.
- Potential impacts are likely to be restricted to localised and temporary avoidance behavior.

Proposed Management/Mitigation

Compliance with administrative controls (such as EPBC Regulations Part 8) to reduce interactions with marine fauna

Marine fauna observations from vessel bridge watch during Inspection, Maintenance, Repair activities

Potential Environmental Impact & Mitigation Measure



Activity Description

Noise emissions generated through the operation survey instrumentation (e.g., boomer, multi-beam echo sounder and sidescan sonar).

(Such equipment is designed to characterize the seabed topography, bathymetry, potential geohazards, and other seafloor features prior to jack-up rig placement at the platform).

Potential Impact

- Elevated underwater noise can affect marine fauna including whales, fish, turtles, sharks and rays:
 - causing direct physical effects on hearing or other organs.
 - masking or interfering with other biologically important sounds, including vocal communication, echolocation, signals and sounds produced by predators or prey.
 - disturbance leading to behavioral changes or displacement from important areas.
- The sound generated by the various survey instruments may result in localised and temporary behavioral changes to marine fauna within tens or hundreds of metres.

Proposed Management/Mitigation

Compliance with administrative controls (such as EPBC Regulations Part 8) to reduce interactions with marine fauna

Potential Environmental Impact & Mitigation Measure



Activity Description

Potential for vessels to collide with marine fauna, including whales, fish, marine reptiles and seabirds.

The main collision risk is through vessel collision with large, slow moving whales potentially resulting in severe injury or mortality.

Potential Impact

Given the short duration of activities within the Operational Area, and the slow speeds at which vessels operate, collisions with marine fauna are considered highly unlikely.

Proposed Management/Mitigation

Compliance with administrative controls (such as EPBC Regulations Part 8) to reduce interactions with marine fauna

Eni will apply control measures to ensure the likelihood of the event occurring is reduced to ALARP and acceptable levels.

Potential Environmental Impact & Mitigation Measure



Activity Description

Accidental loss of hydrocarbons (Blacktip condensate and gas) to the marine environment due to well blowout may occur, caused by failure of technical well barriers (e.g., the Blowout Preventor).

Modelling of a loss of well containment was undertaken with the outcome within the spatial extent of the EMBA.

Potential Impact

A study on Blacktip condensate shows the rate of evaporation of Blacktip condensate is rapid, with 67% of the volume of the condensate lost within the first two hours and 89% by eight hours.

Potential impacts across the EMBA to plankton, fish, turtles, sea snakes, marine mammals, seabirds and migratory shorebirds, tourism, recreation, commercial fisheries, and cultural heritage.

Eni will apply control measures to ensure the likelihood of the event occurring is reduced to acceptable levels.

Proposed Management/Mitigation

Procedures to reduce the potential for uncontrolled hydrocarbon releases will be followed.

Wells to be drilled in compliance with the accepted WOMP including implementation of barriers to prevent a loss of well control

A blowout preventer will be installed and tested

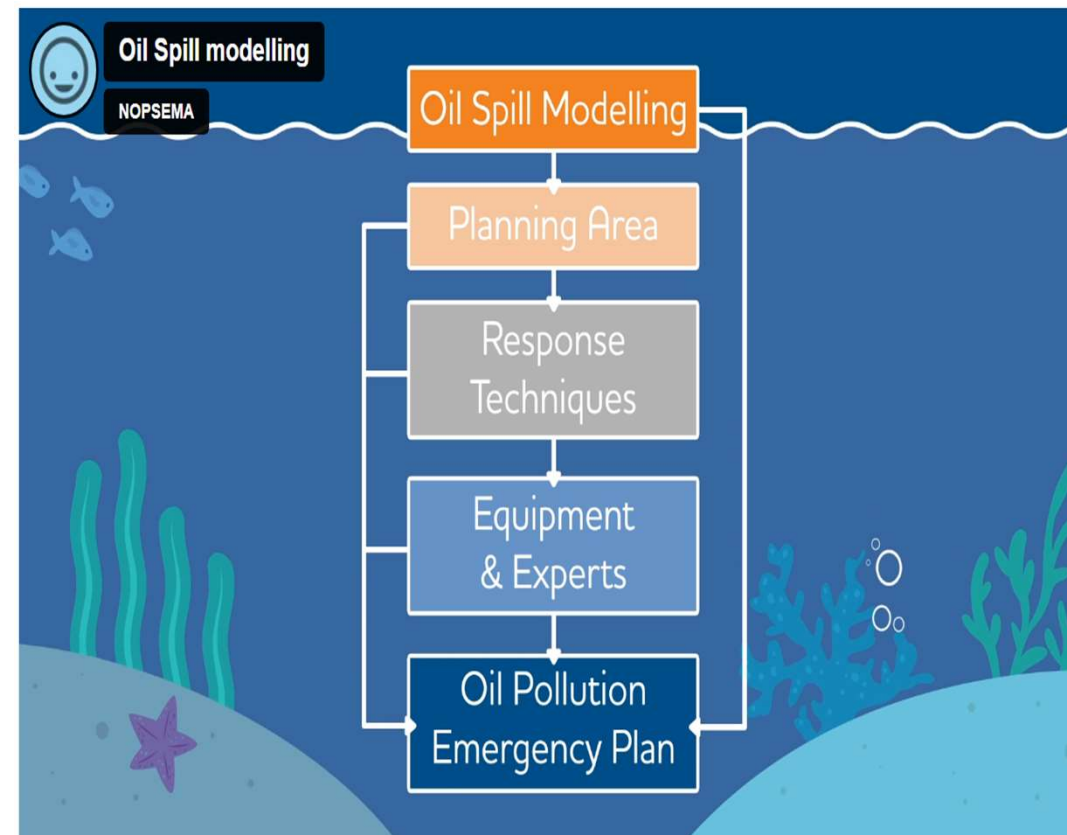
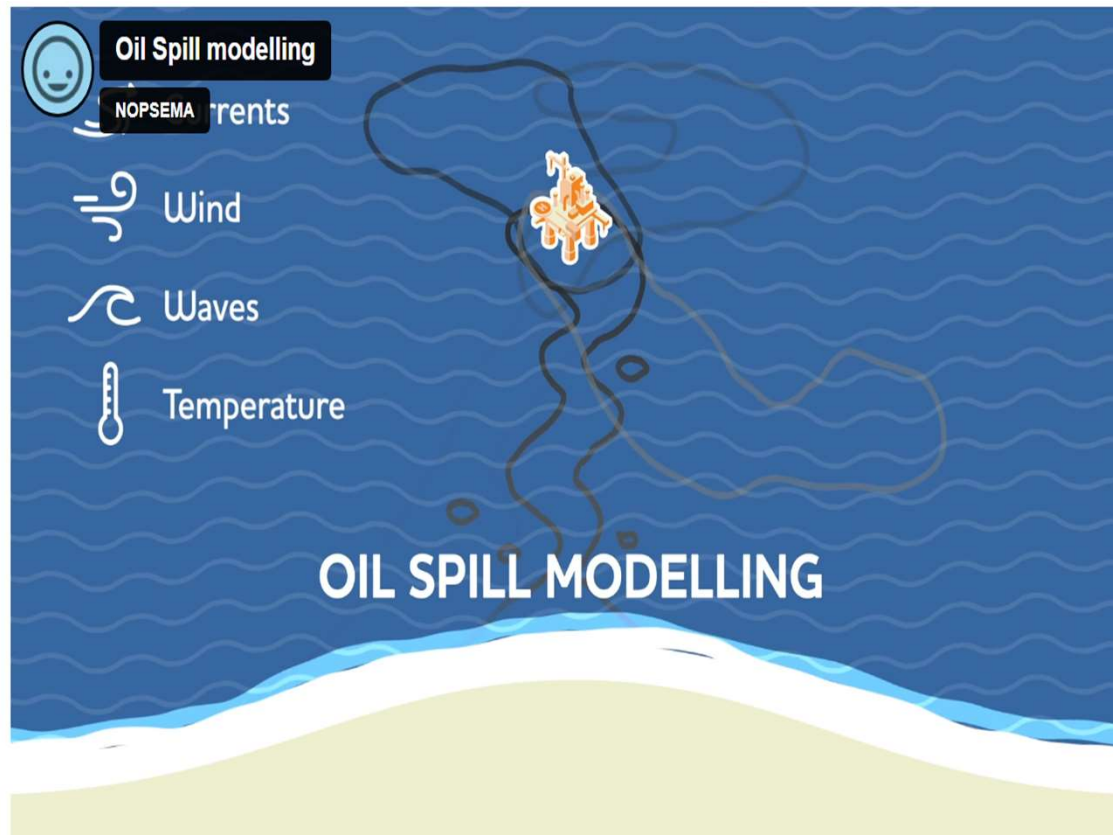
A Source Control Emergency Response Plan will be prepared including specifics drilling a relief well.

Response plans and equipment will be in place and maintained to manage spills to the environment (e.g., oil pollution emergency plans). Where required, operational and scientific monitoring undertaken in accordance with Eni's Operational and Scientific Monitoring Plan

Oil Spill Modelling

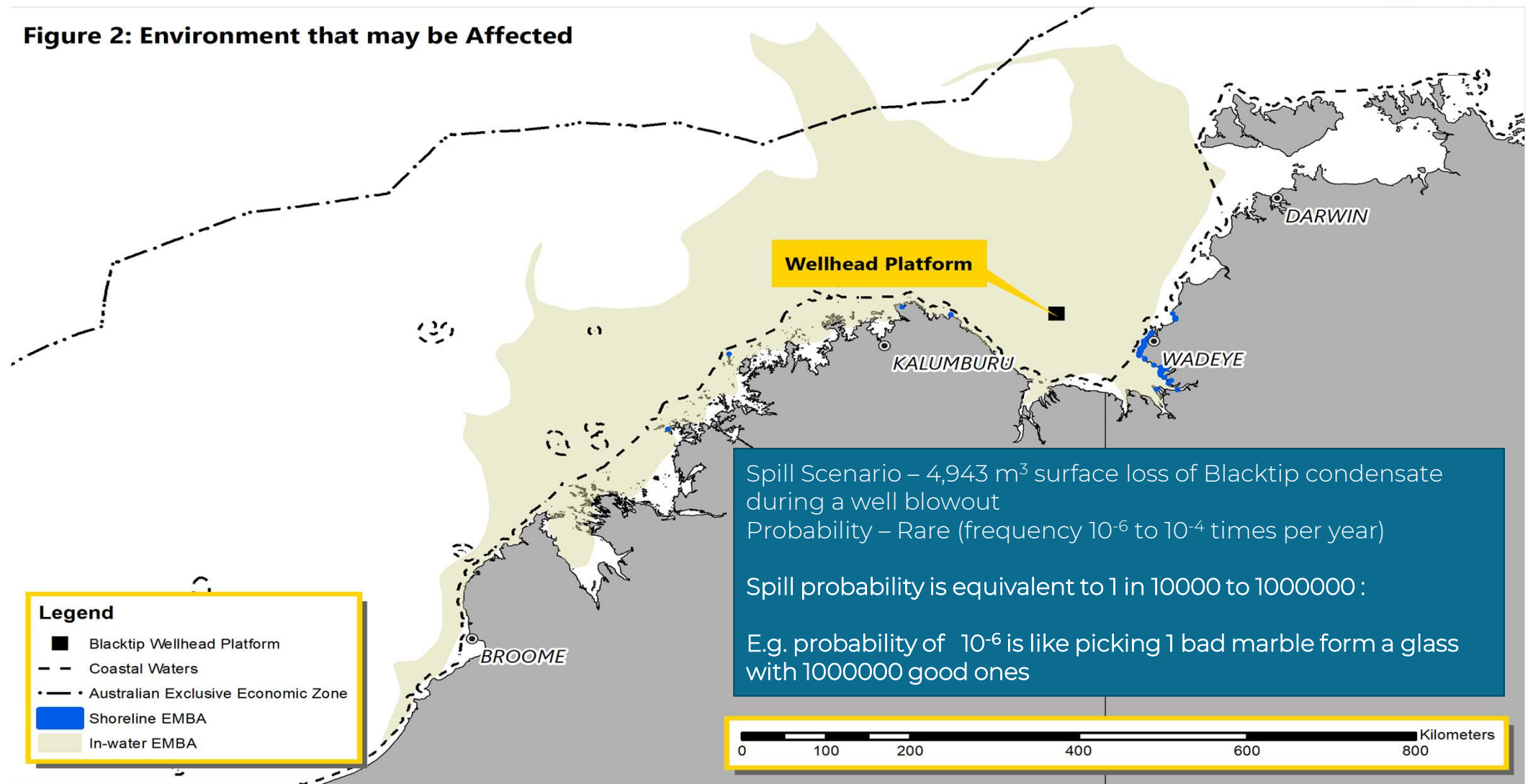


[Oil pollution risk management | NOPSEMA](#)



Environment that may be Affected (EMBA)

Figure 2: Environment that may be Affected



Eni's Local Contribution



Rangers Training



Water Sampling Training



Eni's Local Contribution

Water Sampling Training with AIMS



Summary



- Here to listen
- Informing community in Wadeye on activities to be undertaken in Blacktip

Next steps

- Collect community comments
- Environment Plan submission to NOPSEMA by end of September



Thank you



Back - Up

Activities – Drilling & Operations

The following activities will occur during drilling of the additional development well:

- site survey (if required),
- jack-up MODU placement,
- drilling and cementing top hole section,
- installation of the blowout preventer,
- drilling intermediate and production hole sections,
- cementing production casing,
- well completion and clean-up, including flaring.

Operations at the Blacktip Offshore Facility in Commonwealth waters include:

- wellhead platform and pipeline production operations,
- surface and subsea infrastructure activities, inspections, maintenance and repairs (as required),
- tanker vessel off-takes of condensate from the single point mooring (twice per year).
- well intervention activities (as required),
- support vessel operations for the activities listed above.

The Blacktip Offshore Environment Plan does not cover these operations in the Northern Territory:

- operation of the Yelcherr gas plant.
- operations of the gas (NT/PL2) and condensate export (NT/PL3) pipelines within NT waters.

Environmental Risks (Operations & Drilling)

Planned Operations

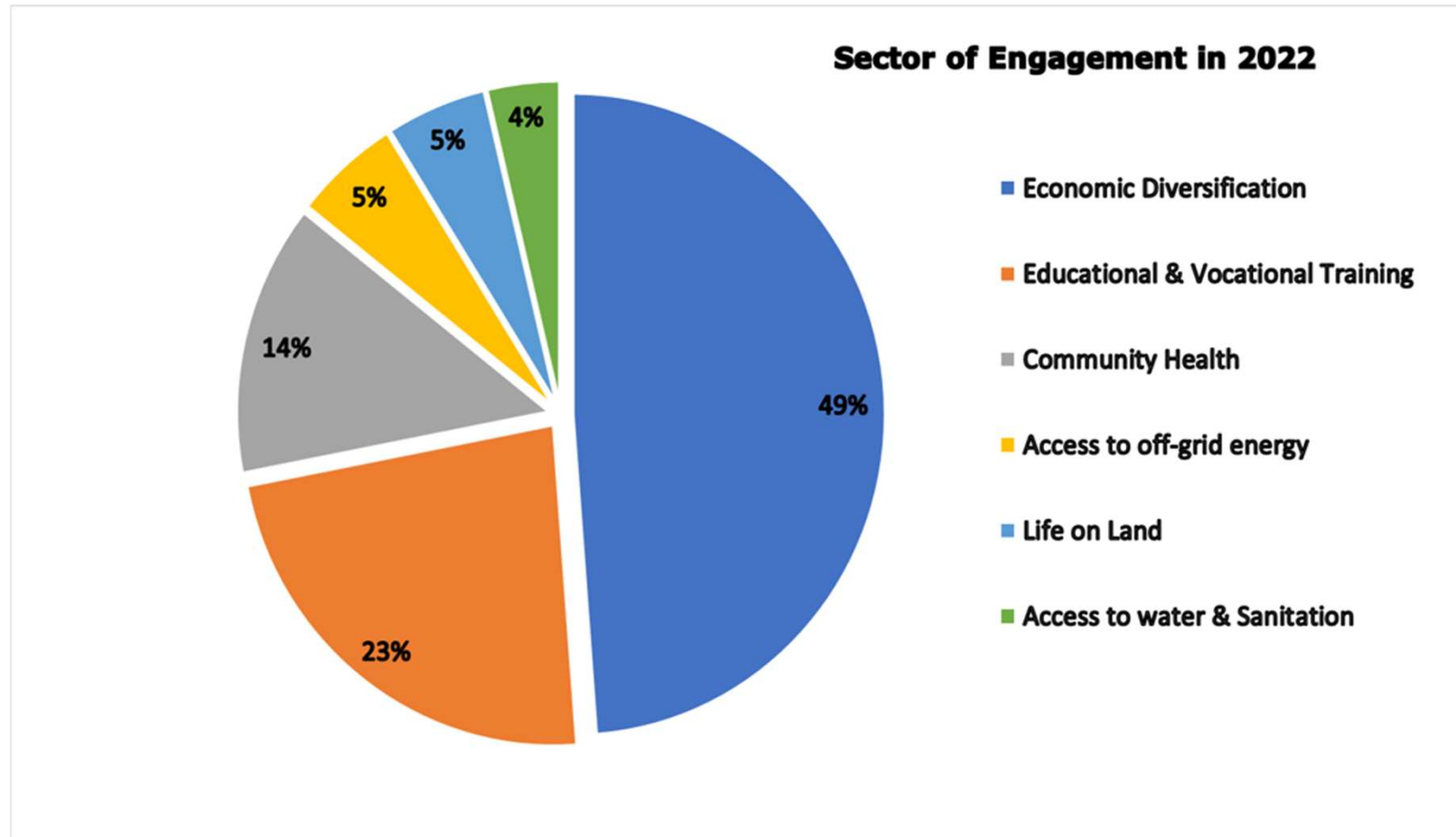
- Interaction with other Marine Users,
- Atmospheric Emissions,
- Routine Helicopter, Vessel and Mobile Offshore Drilling Unit Noise,
- Underwater Survey Equipment Noise,
- Light Emissions,
- Grey water, Sewage and Putrescible Waste Discharge,
- Discharge of Contaminated Water,
- Drilling Muds and Fluid Discharges,
- Seabed Disturbance

Unplanned Operations

- Non-Hazardous and Hazardous Waste,
- Vessel Collision with Marine Fauna,
- Introduction of Marine Pest Species,
- Loss of Hydrocarbons, Hydraulic Fluid and Bulk Chemicals and Fluids,
- Loss of Containment from Well Blowout,
- Marine Diesel Oil Spills to Sea,
- Loss of condensate at the SPM,
- Oil Spill Response Operations



Eni's global contribution through Sustainable Development Goals



2023-10-24 Blacktip Eps_Community Engagement Presentation



Blacktip Environment Plan

Community Consultation

24 October 2023

Introduction to the Eni team



Angelina Branco – Stakeholder Engagement & CSR Manager

Cameron Hayes – Offshore Supervisor & Completion Engineer

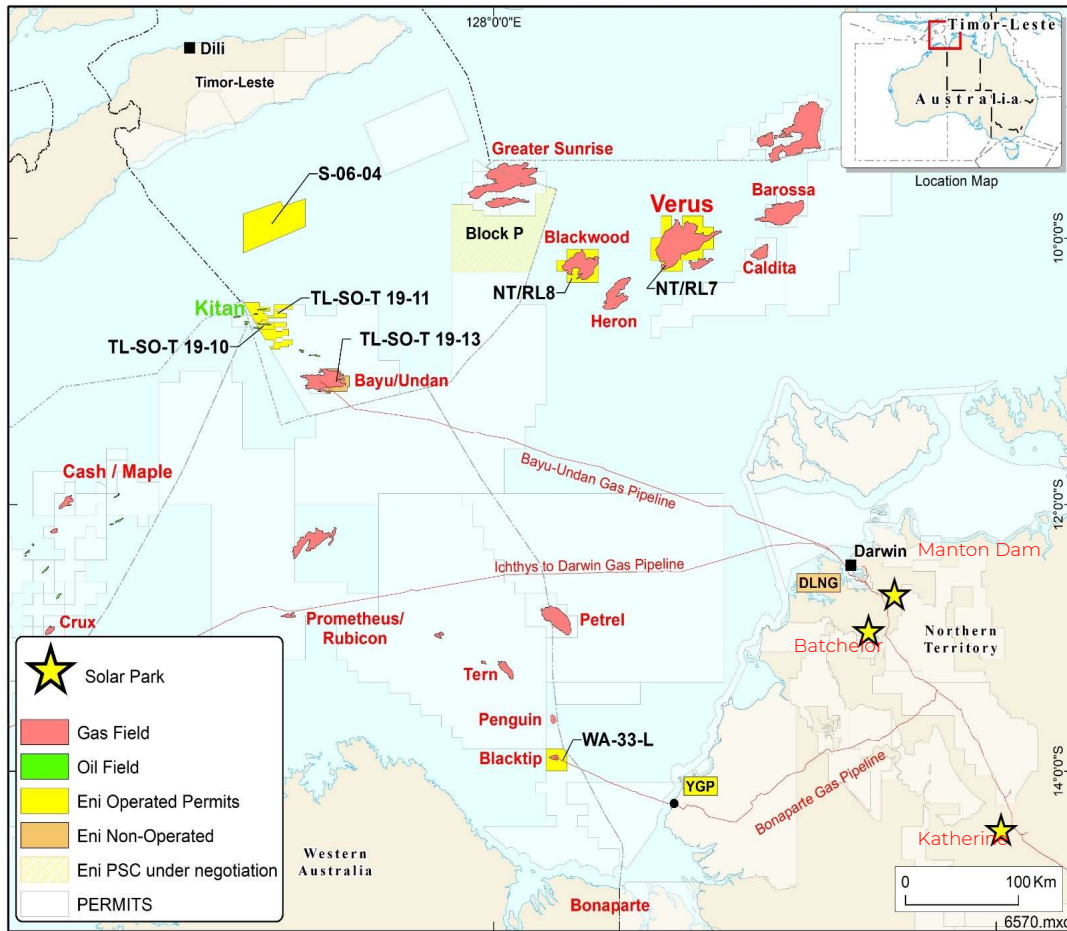
Mick Allen - Health, Safety Environment Advisor

Objective of the consultation



- 01 **Here to listen**
- 02 Eni's activities in Australia and Timor - Leste
- 03 Update of activities in Blacktip
- 04 **Preparation of Drilling Environment Plan & 5 yearly Environment Plan for Operation**
- 05 Drilling Activity summary
- 06 Summary of Potential Environmental Impact
- 07 Eni's Local Contribution at Wadeye

Eni in Australia and Timor Leste



Key Facts

Gas Production

- 100% owned & operated Blacktip Gas Project
- Blacktip supplied 30.4 petajoules of gas to Territory and East Coast customers in 2021.
- Providing almost all of the Territory's gas needs to generate electricity for homes, industry and business.
- Blacktip provides 100% of the gas supply for Wadeye power generation (since 2021).

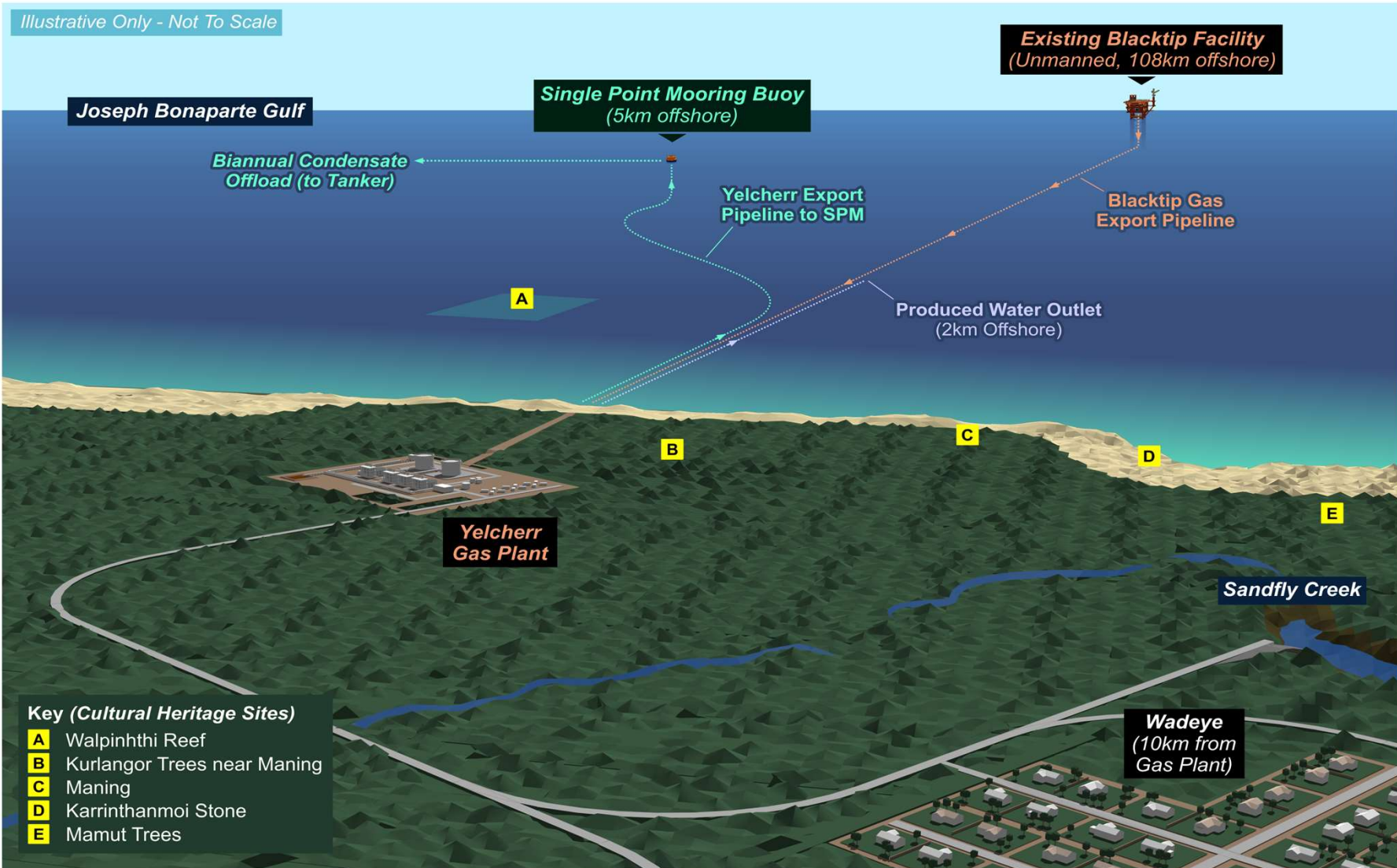
Other Projects

- Bayu-Undan Gas Field and Darwin LNG Project (11% Eni)

Renewables

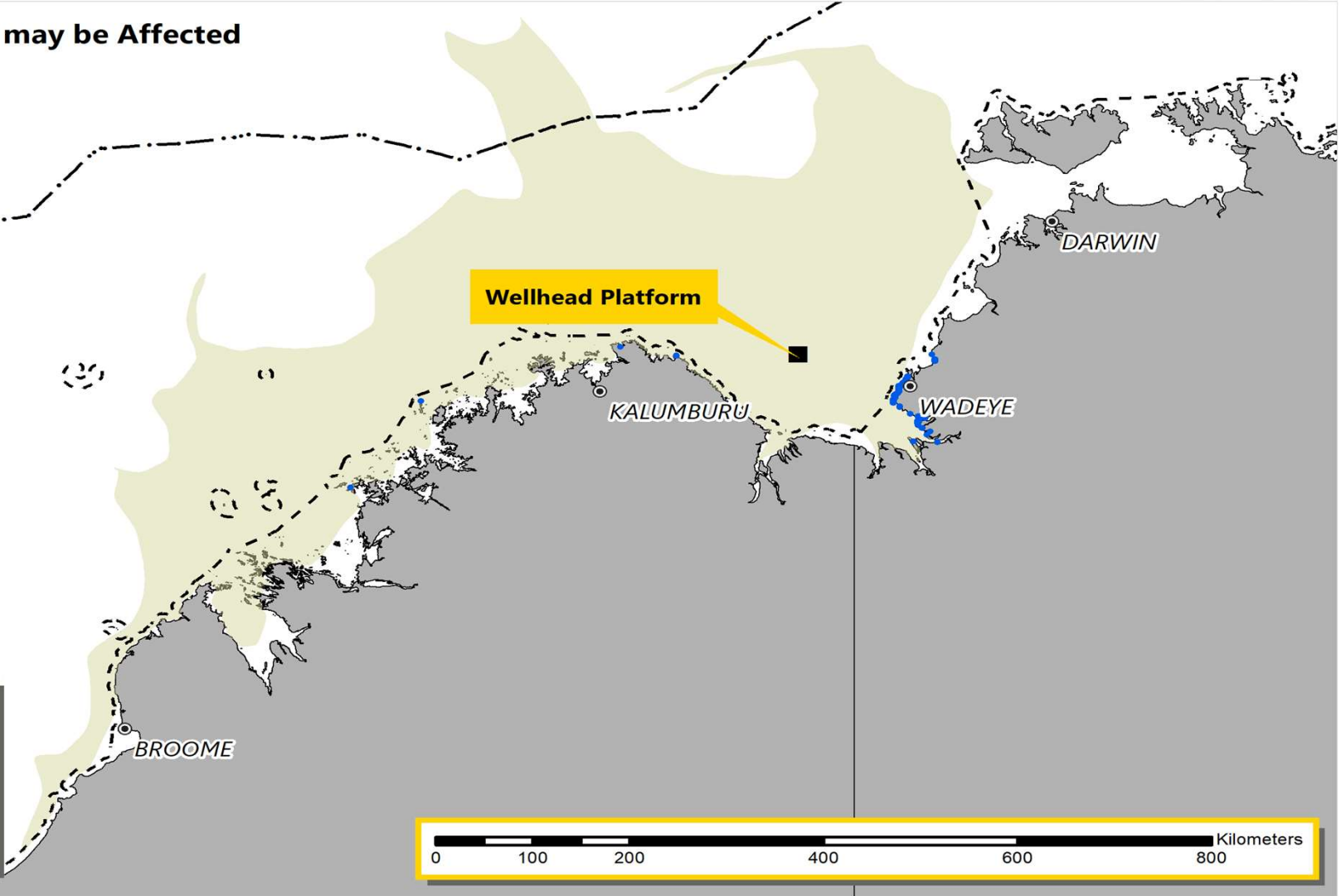
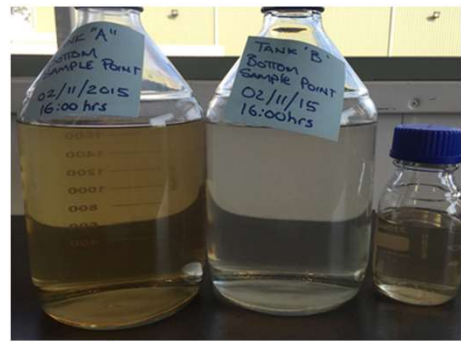
- 3 Solar Plants in the NT (total capacity 59 Megawatts)

Blacktip Project location



Environment that may be Affected (EMBA)

Figure 2: Environment that may be Affected





Key Objective : Environmental permitting process

Operations Environment Plan – Every 5 years

Not a new process, engagement has occurred on all previous Environment Plan

Current Operations Environment Plan expires March 2024

Process to renew Environment Plan requires stakeholder consultation

Drilling Environment Plan

Required for the purpose of drilling campaign

Ongoing planning for a drilling campaign

Process to submit requires stakeholder consultation

Blacktip Infrastructure



Wellhead Platform (WHP)

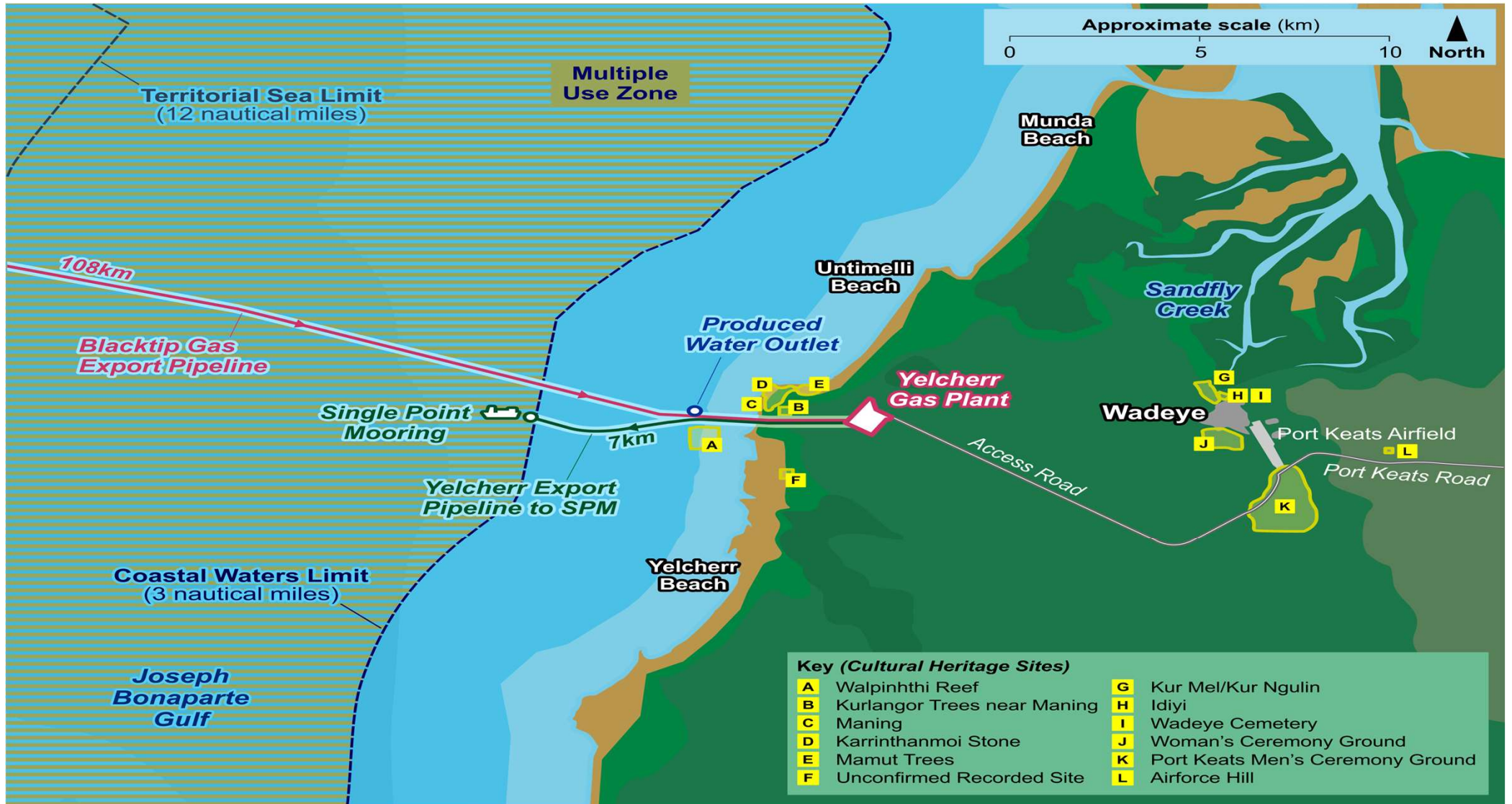


Yelcherr Gas Plant (YGP)

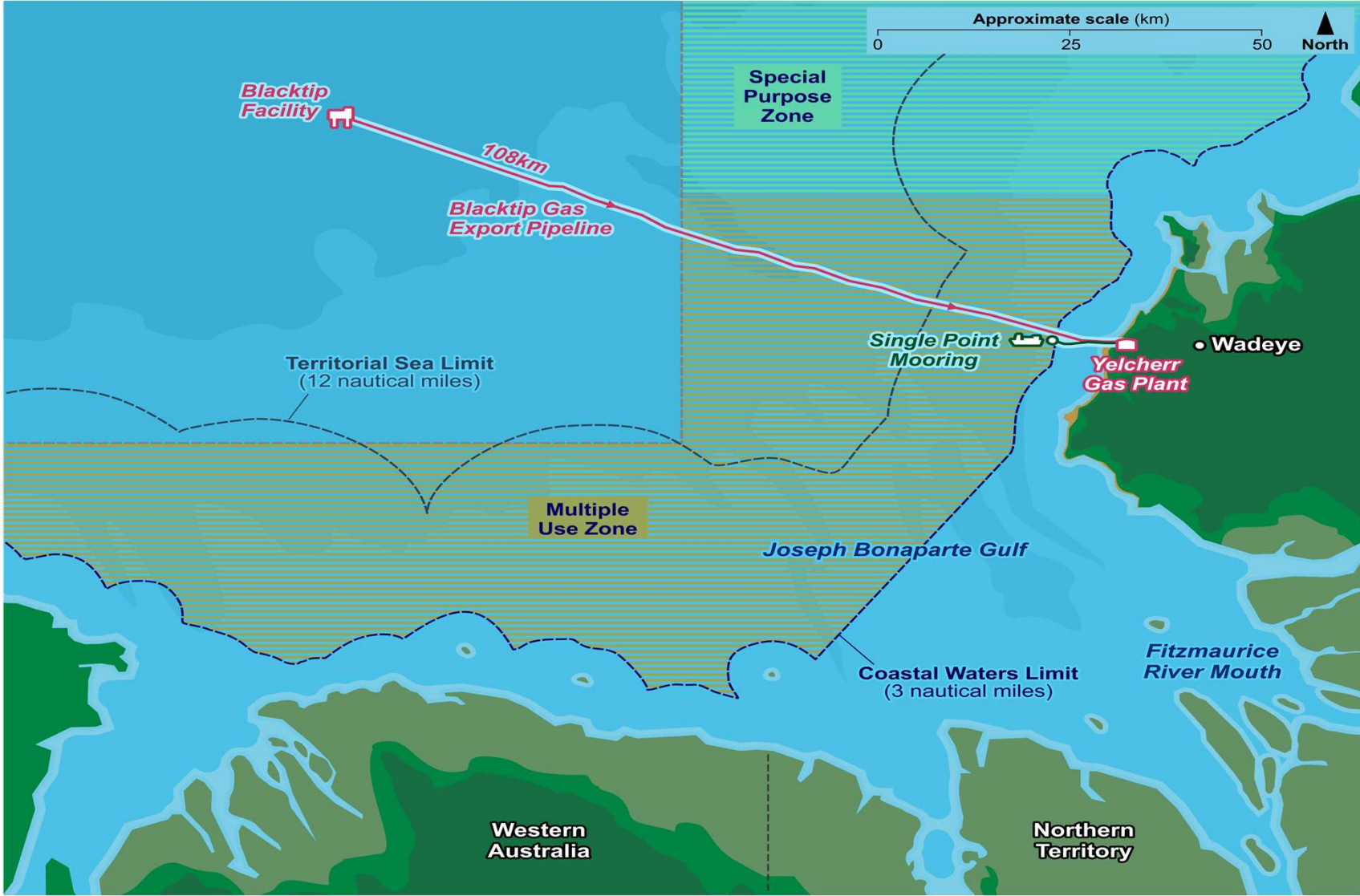


Single Point Mooring (SPM)

Blacktip Project location

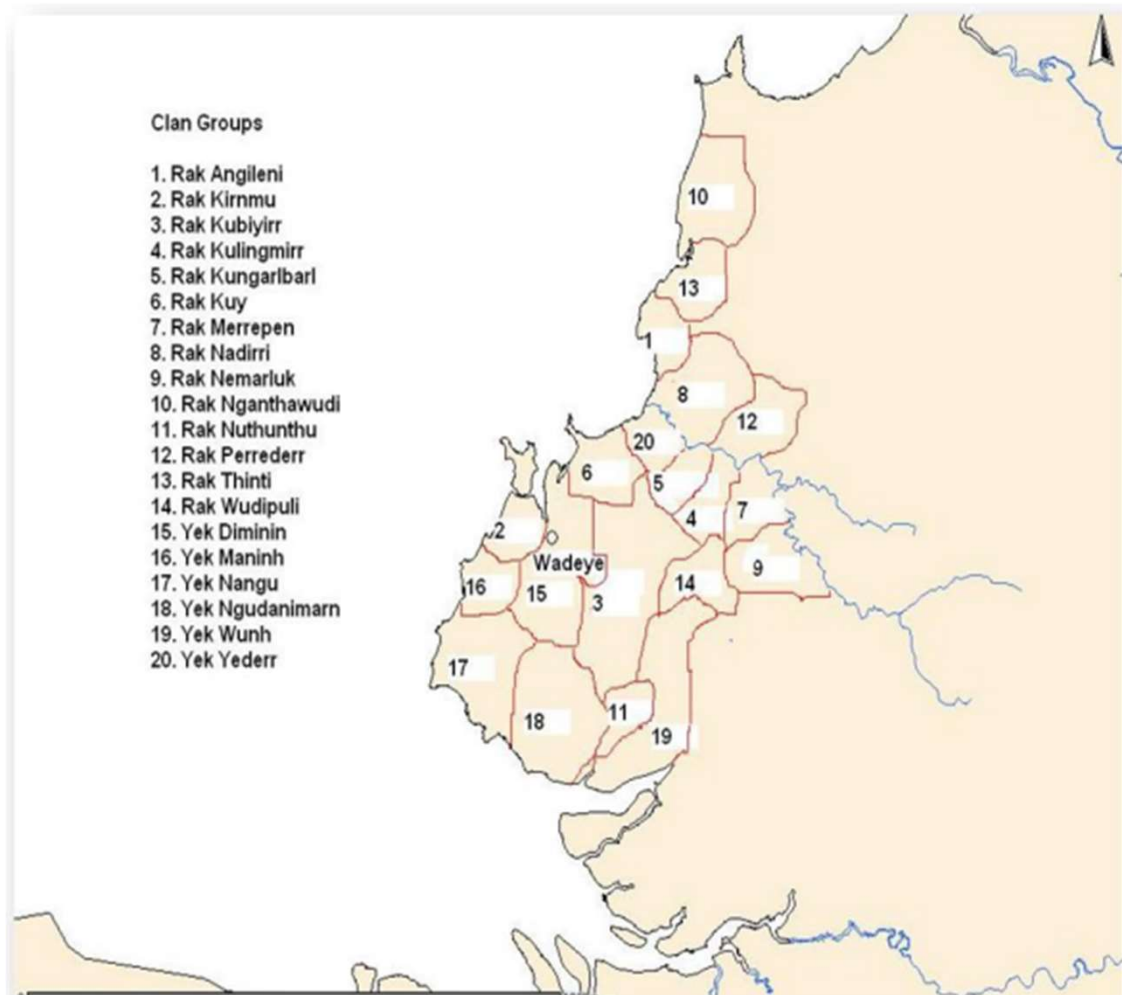


Blacktip Project location





Wadeye Community



Language groups

Emmi
Magati-ge
Marri Amu
Marri Ngarr
Marritjevin
Menhthe
Murrinh-patha
Ngan.gimerri
Ngan.gi-kurunggurr
Ngan.gi-tjemerri
Ngan.gi-wumeri

“Leon Melpi told me one day that he and his middle-aged generation are „anthropologists” and he is right. They are continually seeking information and knowledge about their own culture. At the same time, they are also willing teachers.” – Bill Ivory, 2009

Drilling Activity summary

The following activities will occur during drilling of the additional development well:

- site survey (if required)
- jack-up drilling rig placement
- drilling and cementing top hole section
- installation of the blowout preventer
- drilling intermediate and production hole sections
- cementing production casing
- well completion and clean-up, including flaring.

JU – drilling rig over Blacktip platform





Summary : Potential Environmental Impacts

Applicable to Operations & Drilling Activities



Potential Environmental Impact & Mitigation Measure

Activity Description

- **Noise** emissions generated through the operation of the rig, (e.g. jack-up and drilling)
- **Noise** from support vessels and helicopters

Potential Impact

- **Marine mammals and turtles** are transitory and, given the low frequency and limited duration of the activities behavioral impacts are expected to be temporary and at the individual level only.
- Potential impacts are likely to be restricted to localised and temporary avoidance behavior.

Proposed Management/Mitigation

Compliance with administrative controls (such as EPBC Regulations Part 8) to reduce interactions with marine fauna

Marine fauna observations from vessel bridge watch during Inspection, Maintenance, Repair activities

Potential Environmental Impact & Mitigation Measure



Activity Description

Noise emissions generated through the operation survey instrumentation (e.g., boomer, multi-beam echo sounder and sidescan sonar).

(Such equipment is designed to characterize the seabed topography, bathymetry, potential geohazards, and other seafloor features prior to jack-up rig placement at the platform).

Potential Impact

- Elevated underwater noise can affect marine fauna including whales, fish, turtles, sharks and rays:
 - causing direct physical effects on hearing or other organs.
 - masking or interfering with other biologically important sounds, including vocal communication, echolocation, signals and sounds produced by predators or prey.
 - disturbance leading to behavioral changes or displacement from important areas.
- The sound generated by the various survey instruments may result in localised and temporary behavioral changes to marine fauna within tens or hundreds of metres.

Proposed Management/Mitigation

Compliance with administrative controls (such as EPBC Regulations Part 8) to reduce interactions with marine fauna

Marine fauna observations from vessel bridge watch during survey. Equipment soft start/warning before start up.

Potential Environmental Impact & Mitigation Measure



Activity Description

Potential for vessels to collide with marine fauna, including whales, fish, marine reptiles and seabirds.

The main collision risk is through vessel collision with large, slow moving whales potentially resulting in severe injury or mortality.

Potential Impact

Given the short duration of activities within the Operational Area, and the slow speeds at which vessels operate, collisions with marine fauna are considered highly unlikely.

Proposed Management/Mitigation

Compliance with administrative controls (such as EPBC Regulations Part 8) to reduce interactions with marine fauna

Marine fauna observations from vessel bridge. Vessels to travel at low speeds in operational area

Potential Environmental Impact & Mitigation Measure (Drilling only)



Activity Description

Accidental **loss of hydrocarbons** (Blacktip condensate and gas) to the marine environment due to well blowout may occur, caused by failure of technical well barriers (e.g., the Blowout Preventor).

Modelling of a loss of well containment was undertaken with the outcome within the spatial extent of the EMBA.

Potential Impact

A study on Blacktip condensate shows the **rate of evaporation of Blacktip condensate is rapid**, with 67% of the volume of the condensate lost within the first two hours and 89% by eight hours.

Potential impacts across the EMBA to plankton, fish, turtles, sea snakes, marine mammals, seabirds and migratory shorebirds, tourism, recreation, commercial fisheries, and cultural heritage.

Proposed Management/Mitigation

Wells to be drilled in compliance with the accepted Well Operations Management Plan

A blowout preventer will be installed and tested

A Source Control Emergency Response Plan in place

Response plans and equipment will be on standby to manage spills

Emergency Response Competency including TDC Ranger Training

2023-10-24 Blacktip Eps_Community Engagement(004) Presentation



Blacktip Environment Plan

Community Consultation

31 Oct. – 2 Nov. 2023

Introduction to the Eni team



Angelina Branco – Stakeholder Engagement & CSR Manager

Cameron Hayes – Offshore Supervisor & Completion Engineer

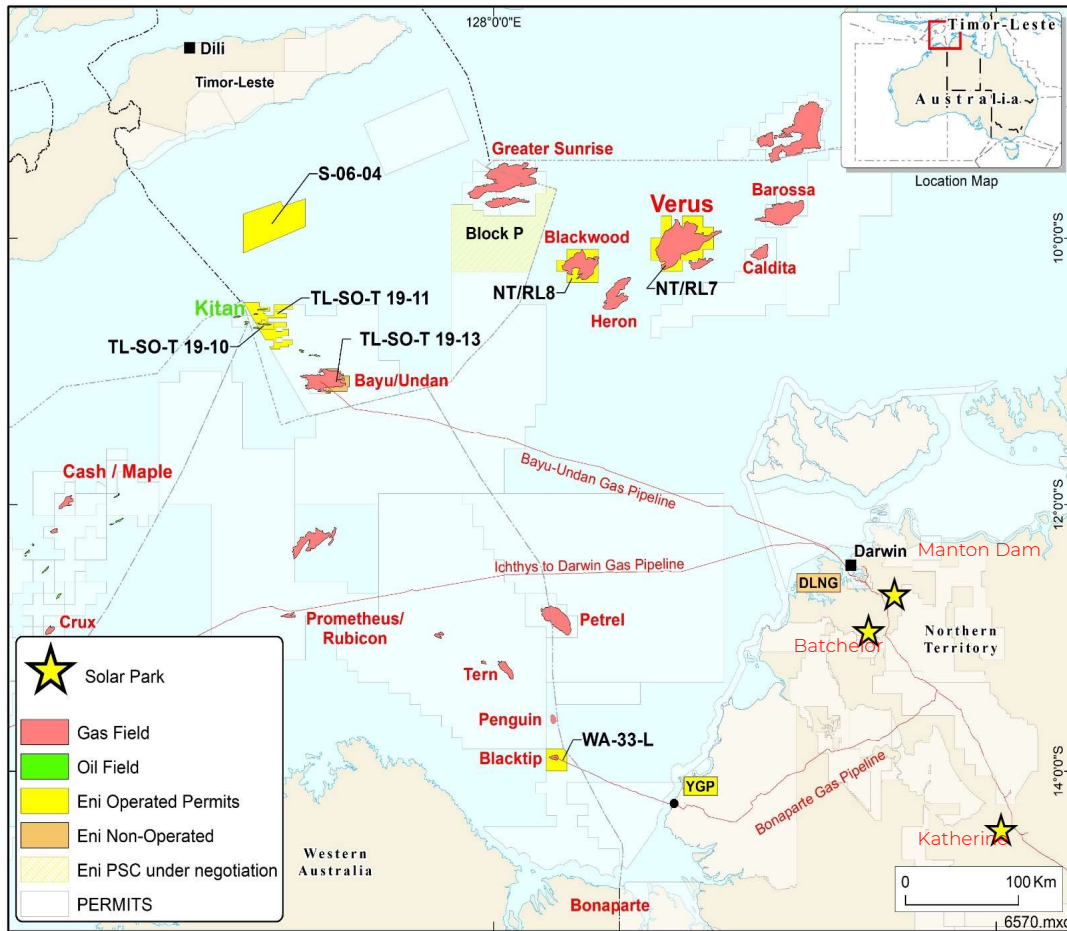
Mick Allen - Health, Safety Environment Advisor

Objective of the consultation



- 01 **Here to listen**
- 02 Eni's activities in Australia and Timor - Leste
- 03 Update of activities in Blacktip
- 04 **Preparation of Drilling Environment Plan & 5 yearly Environment Plan for Operation**
- 05 Drilling Activity summary
- 06 Summary of Potential Environmental Impact
- 07 Eni's Local Contribution at Wadeye

Eni in Australia and Timor Leste



Key Facts

Gas Production

- 100% owned & operated Blacktip Gas Project
- Blacktip supplied 30.4 petajoules of gas to Territory and East Coast customers in 2021.
- Providing almost all of the Territory's gas needs to generate electricity for homes, industry and business.
- Blacktip provides 100% of the gas supply for Wadeye power generation (since 2021).

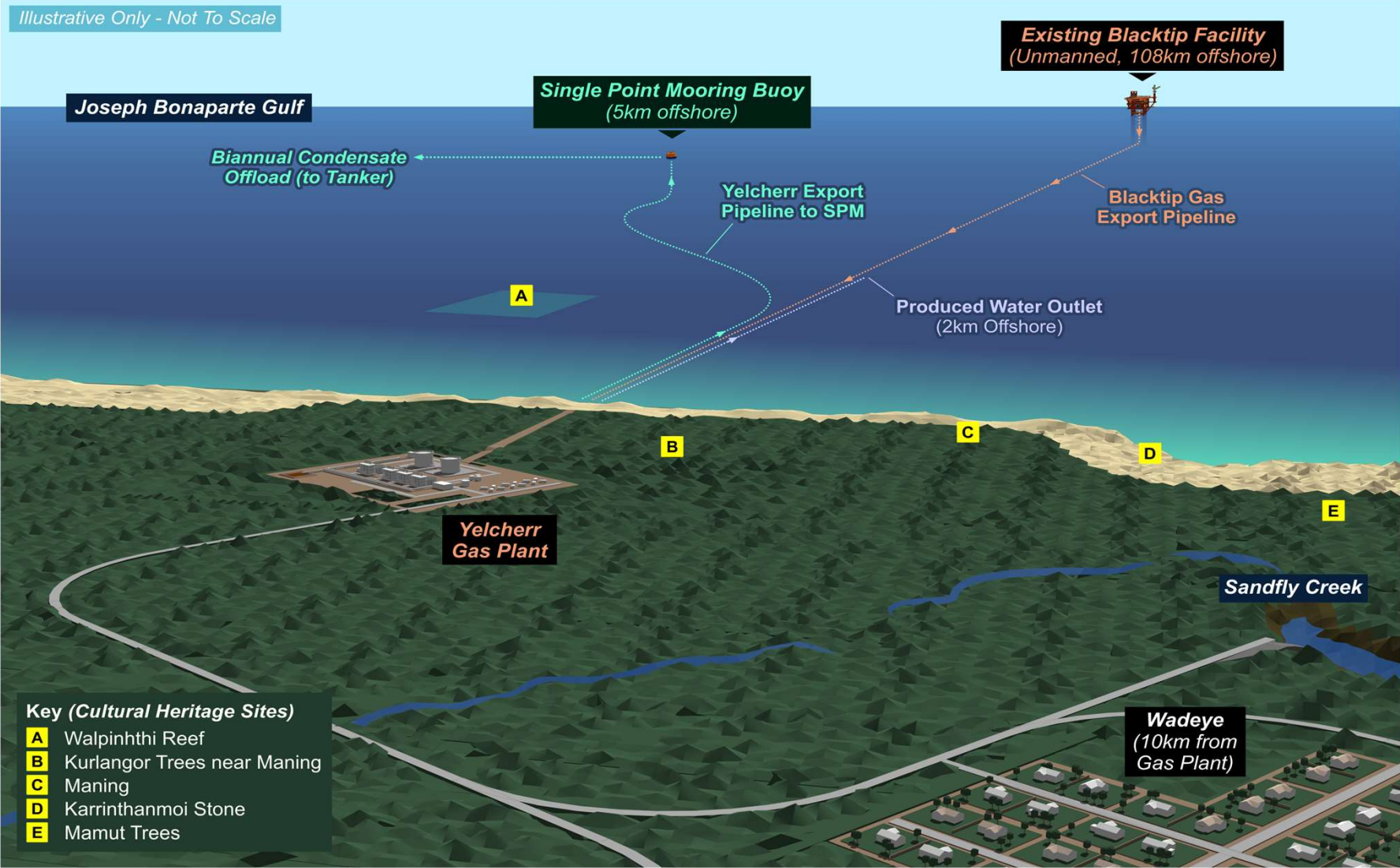
Other Projects

- Bayu-Undan Gas Field and Darwin LNG Project (11% Eni)

Renewables

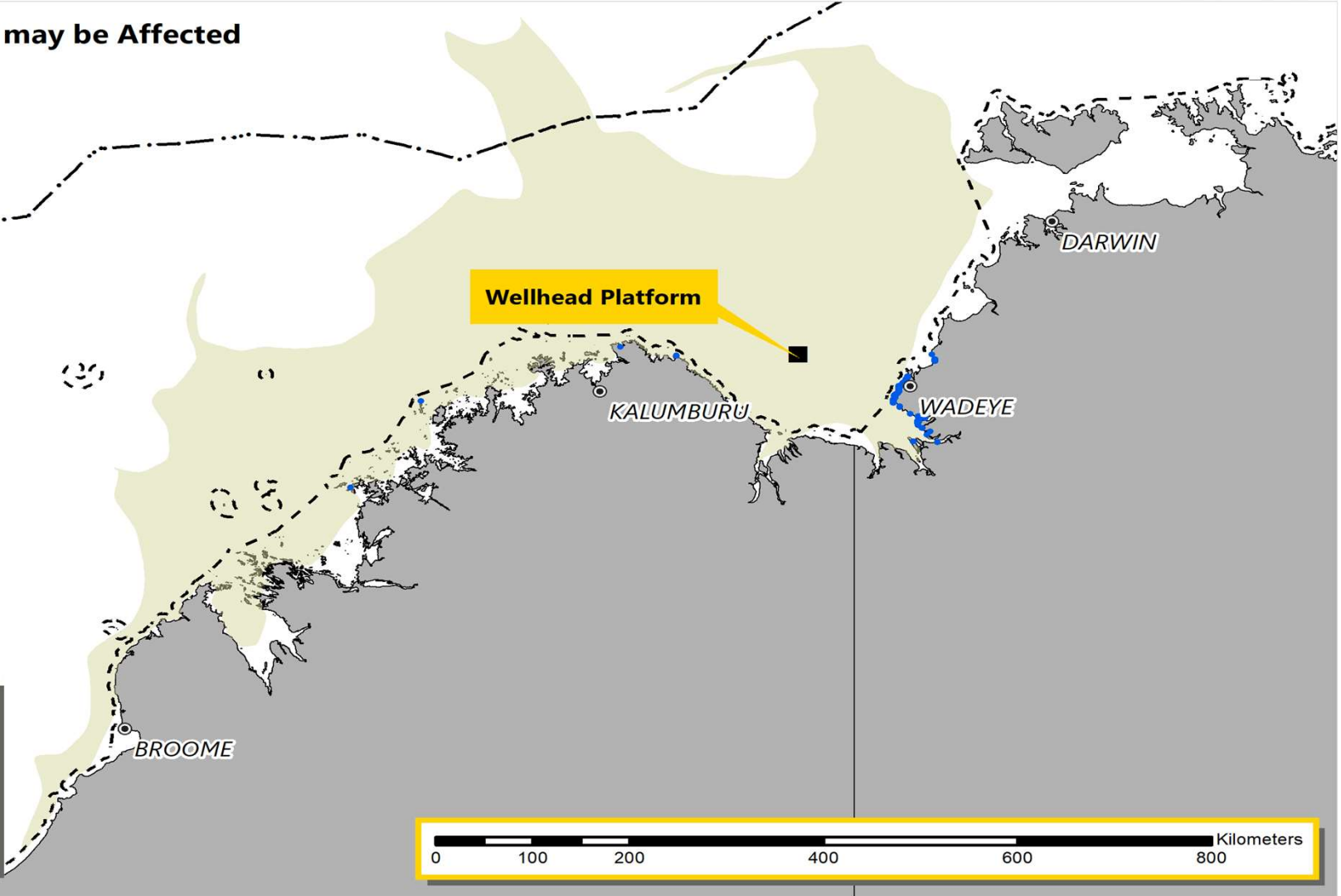
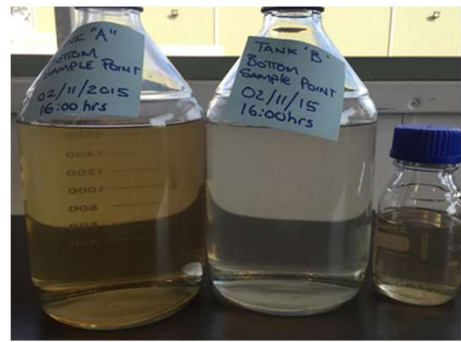
- 3 Solar Plants in the NT (total capacity 59 Megawatts)

Blacktip Project location



Environment that may be Affected (EMBA)

Figure 2: Environment that may be Affected





Key Objective : Environmental permitting process

Operations Environment Plan – Every 5 years

Not a new process, engagement has occurred on all previous Environment Plan

Current Operations Environment Plan expires March 2024

Process to renew Environment Plan requires stakeholder consultation

Drilling Environment Plan

Required for the purpose of drilling campaign

Ongoing planning for a drilling campaign

Process to submit requires stakeholder consultation

Blacktip Infrastructure



Wellhead Platform (WHP)

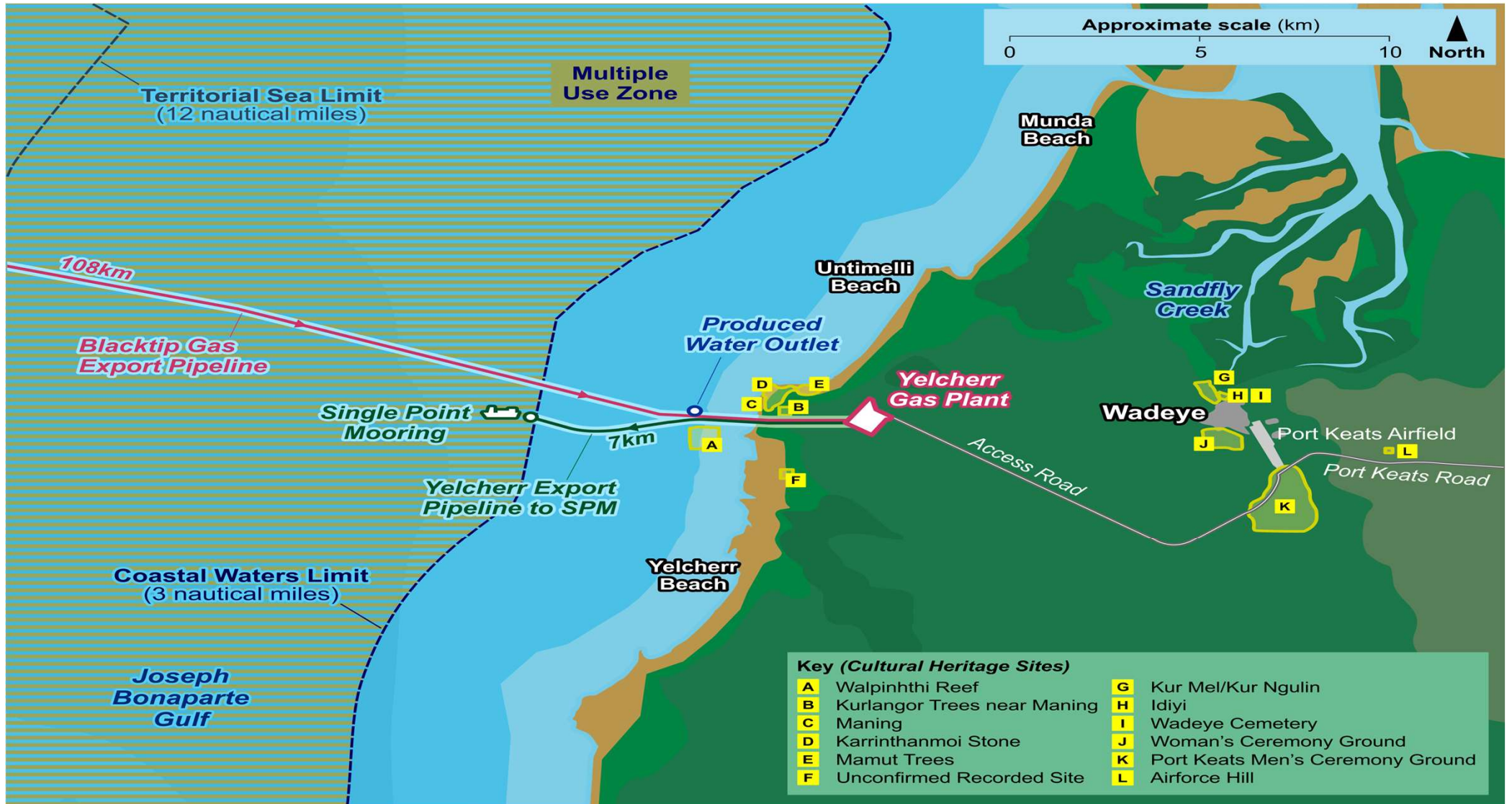


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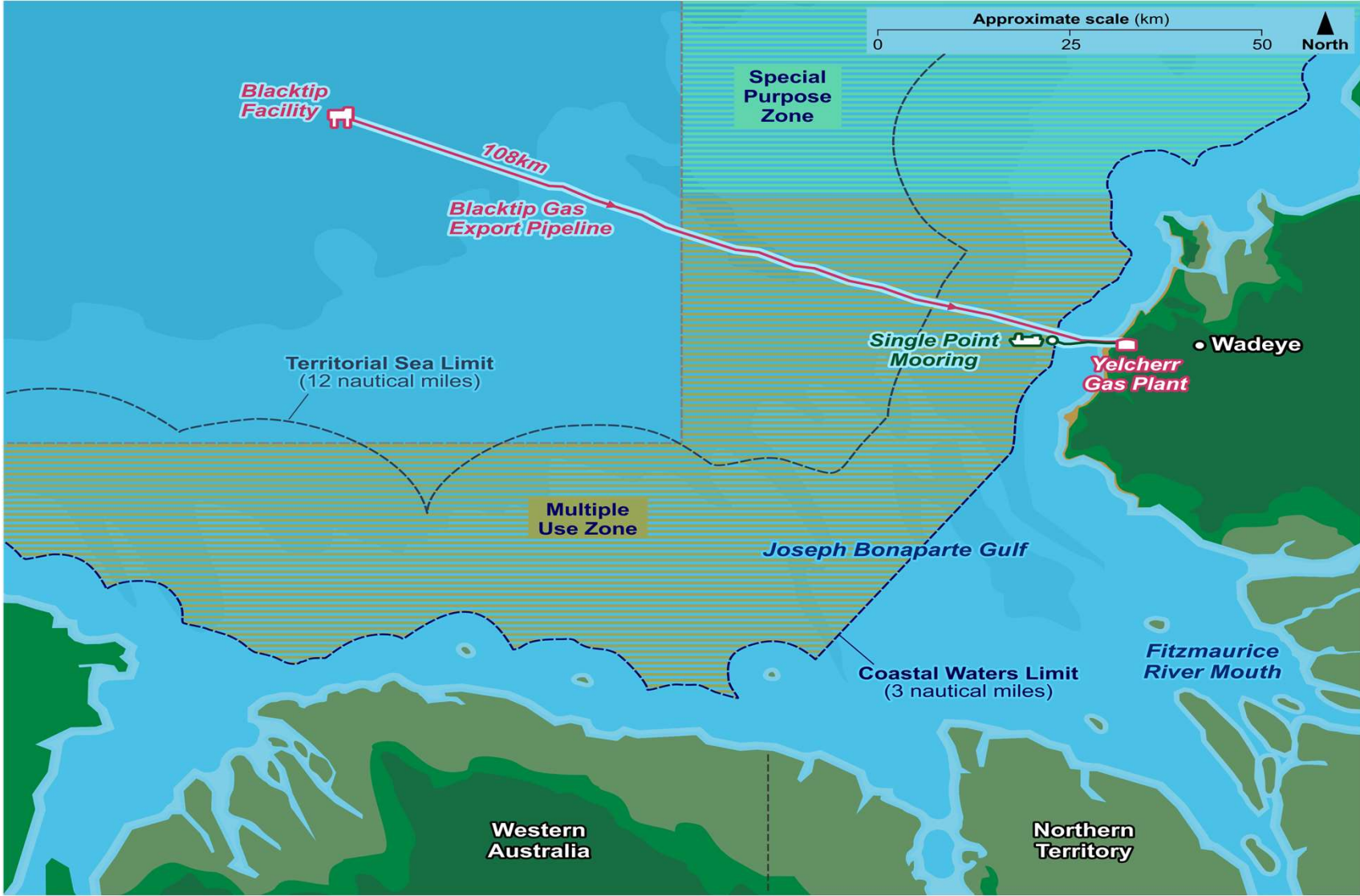


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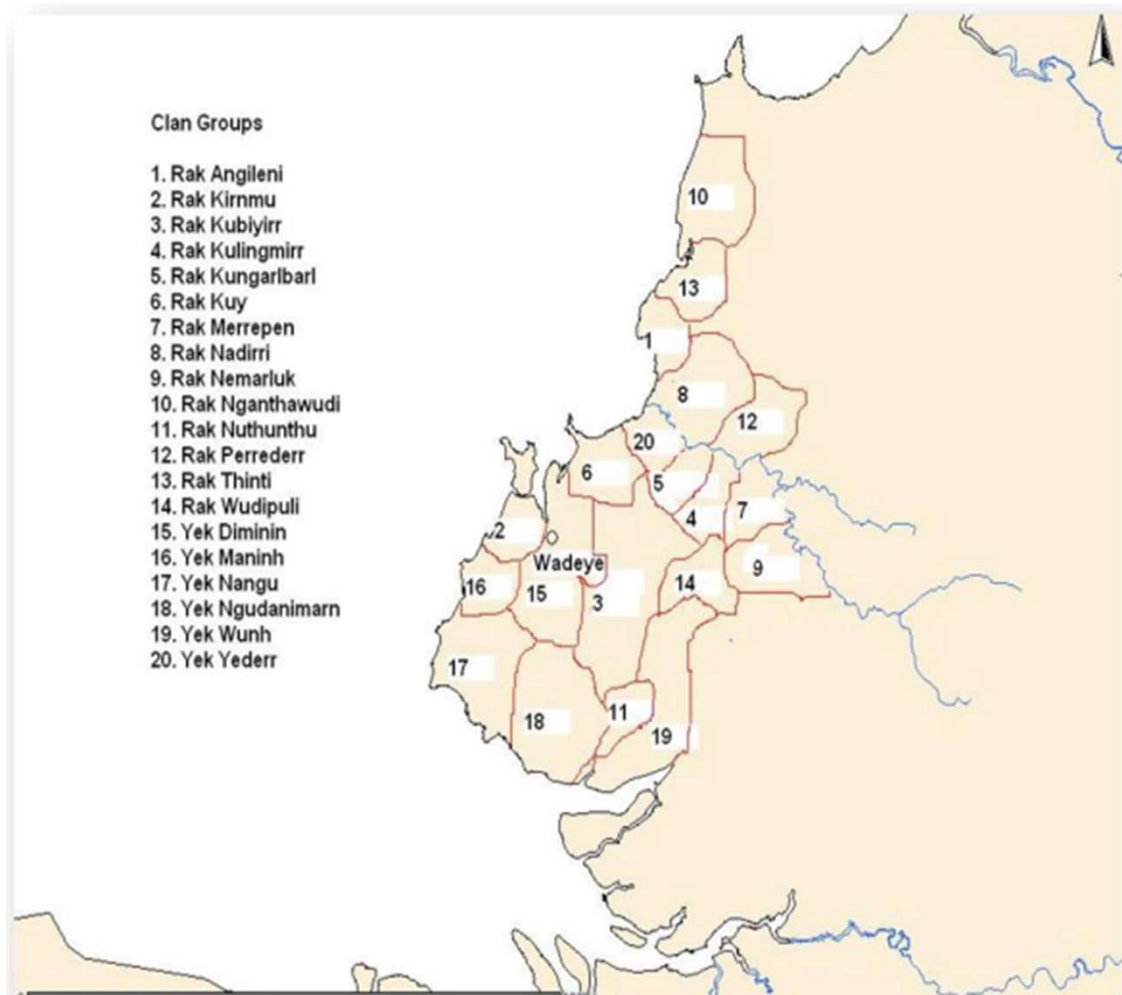


Blacktip Project location





Wadeye Community



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Marri Amu
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Ngan.gi-kurunggurr
Ngan.gi-tjemerri
Ngan.gi-wumeri

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JU – drilling rig over Blacktip platform





Summary : Potential Environmental Impacts

Applicable to Operations & Drilling Activities

Potential Environmental Impact & Mitigation Measure



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Proposed Management/Mitigation

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Potential Environmental Impact & Mitigation Measure (Drilling only)



Activity Description

Accidental **loss of hydrocarbons** (Blacktip condensate and gas) to the marine environment due to well blowout may occur, caused by failure of technical well barriers (e.g., the Blowout Preventor).

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A blowout preventer will be installed and tested

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Emergency Response Competency including TDC Ranger Training



Eni's Local Contribution

Wadeye

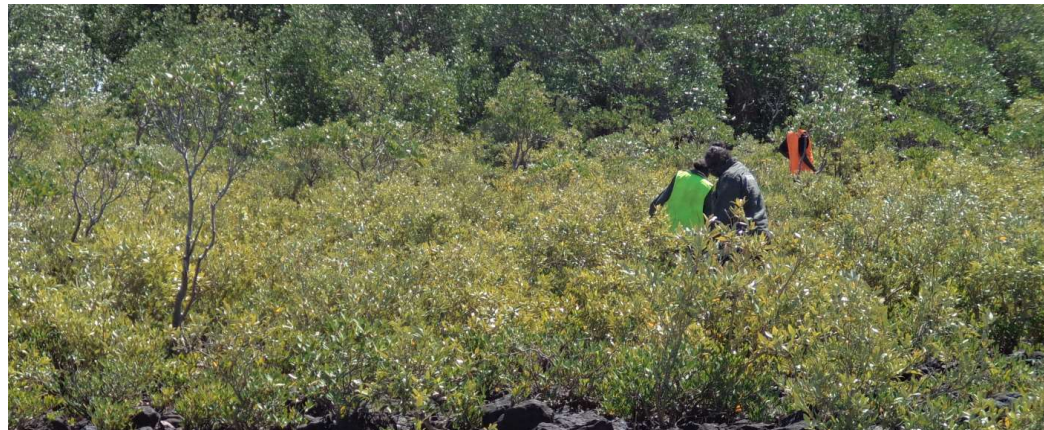
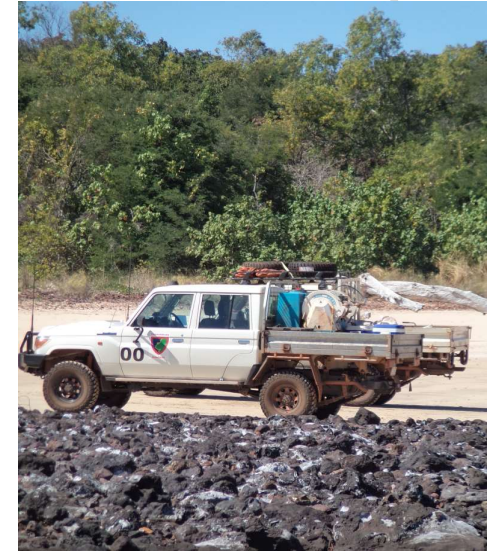
(Obtained permission to use pictures)

Rangers Training in 2023

Water Sampling Training with AIMS



Shellfish Monitoring - 2023



BRUVS Training - 2020



Water Sampling Training - 2023



Recycling Programme – Ongoing



Summary



- Here to listen
- Informing surrounding communities on activities to be undertaken in Blacktip

Next steps

- Collect comments made during discussions
- Aim for submission of Operations Environment Plan to NOPSEMA by end of November
- Aim for submission of Drilling Environment Plan to NOPSEMA by end of November

Contacts:

- email: eniaus.hsefeedback@eni.com
- phone number: (08) 9320 2623
- address: 226 Adelaide Terrace, Perth, WA, 6892



Thank you



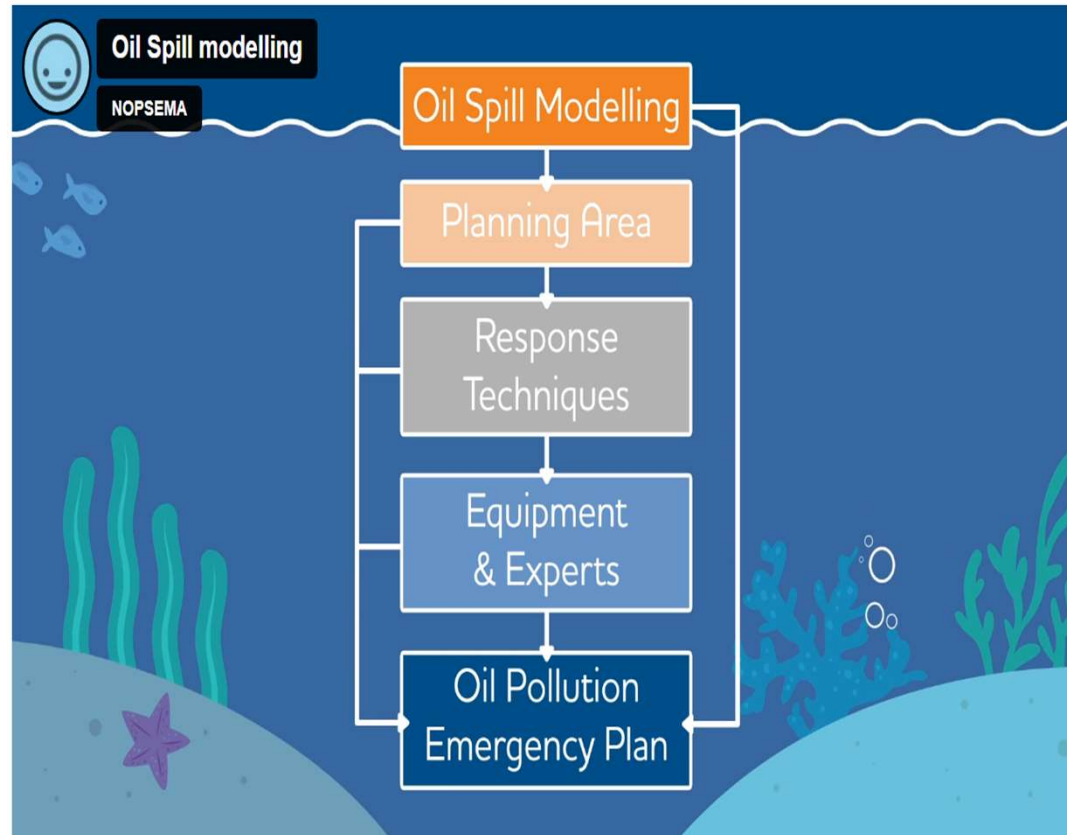
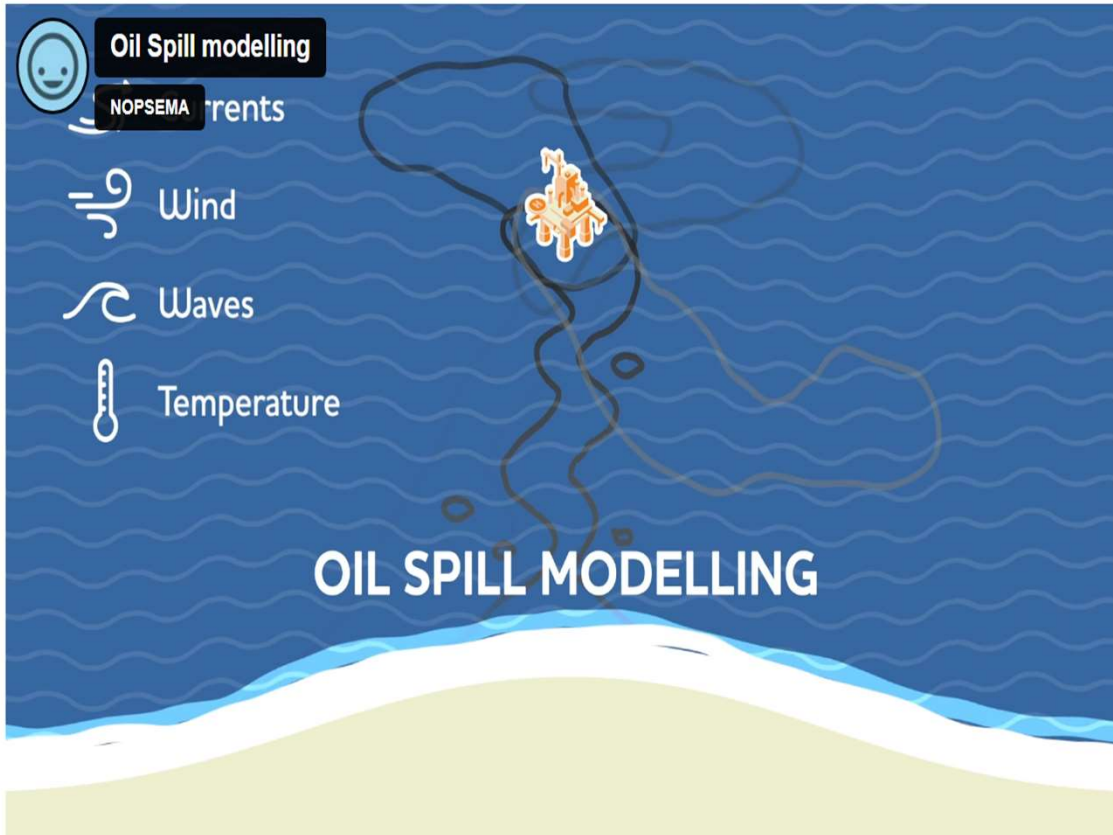
Operations Activity Summary

- wellhead platform and pipeline production operations
- surface and subsea infrastructure activities, inspections and maintenance (as required)
- tanker vessel off-takes of condensate from the single point mooring (twice per year)
- well intervention activities (as required)
- support vessel operations for the activities listed above.



Oil Spill Modelling

[Oil pollution risk management | NOPSEMA](#)



Wadeye Community Newsletter Advertisement for Consultation

Publication - Community Consultation



eni

Eni Australia Limited (Eni) Community Consultation for Blacktip

Since 2009, Eni has been supplying natural gas for electrical power generation to the largest part of the Northern Territory (NT) from the Blacktip field.

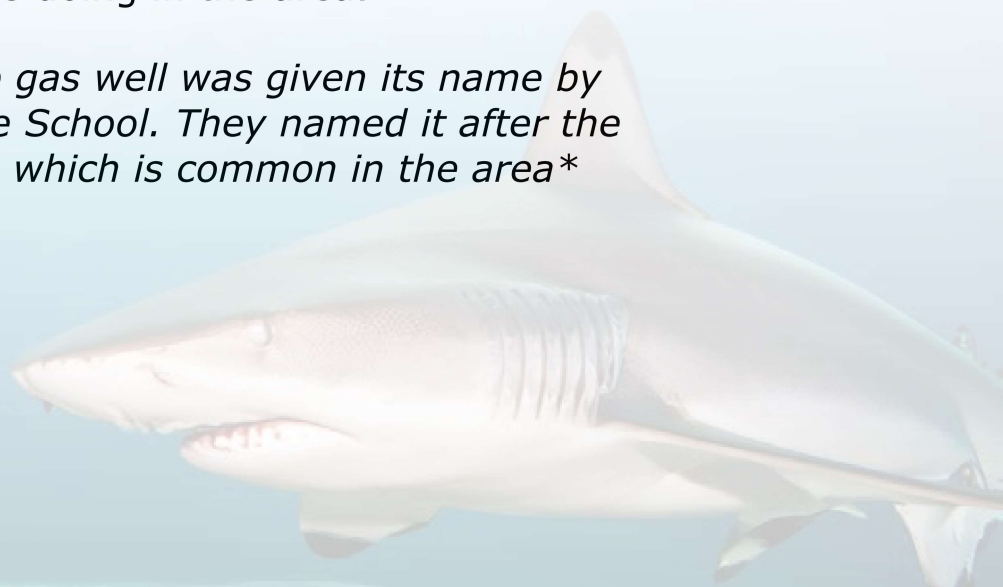
This field is located more than 100km off the coast of Wadeye. The gas is produced from three deep wells that feed it into a pipeline, which directly reaches the processing facility at Yelcherr Beach on Yek Maninh Country. At the Yelcherr Gas plant, the gas is cleaned for electricity generation and then pumped into another pipeline that supplies most of the power stations in the NT, including Wadeye and Darwin.

To ensure a continuous gas supply for electric power generation in the NT, Eni is planning to drill a new well from the Wellhead platform, similar to the third well that was completed in at the end of May this year.

The Eni Blacktip team propose to meet and discuss the planned operations with the community on the 31st August 2023.

Everyone in the community is welcome to come along and find out more about what Eni is doing in the area.

***Fun fact** – *the Black Tip gas well was given its name by students from the Wadeye School. They named it after the Black Tip shark – Yenge – which is common in the area**



Blacktip Drilling Flyer: 000036_DV.PR.HSE.1194.000_00

Blacktip Offshore Drilling Environment Plan

Eni Australia Limited (Eni) operates the Blacktip Offshore Facility in the Joseph Bonaparte Gulf in production license WA-33-L and pipeline licence WA-15-PL (**Figure 1**). Gas production from the facility commenced in 2009, providing a reliable source of domestic gas for the Northern Territory.

Eni is proposing to drill an additional development well using a jack-up mobile offshore drilling rig (MODU). The MODU will be positioned adjacent to the Blacktip wellhead platform while drilling the well.

Eni are currently preparing a Blacktip Offshore Drilling Environment Plan which manages the environmental impacts and risks of drilling the additional development well for submission to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). This Environment Plan is in addition to the Blacktip Offshore Environment Plan which covers the operation of the well head platform, gas export pipeline and single point mooring in Commonwealth waters.

As required by NOPSEMA, Eni must consult with people whose functions, interests and activities may be affected by the drilling of the additional development well — Eni refers to such people as relevant persons. This fact sheet provides you with information to

determine if you are a relevant person for the drilling of the additional development well.

You may be a relevant person if the drilling of the additional development well may affect:

- your spiritual or cultural connection to the land and sea country
- your business and recreational activities, such as fishing and tourism
- the functions or responsibilities of your organisation.

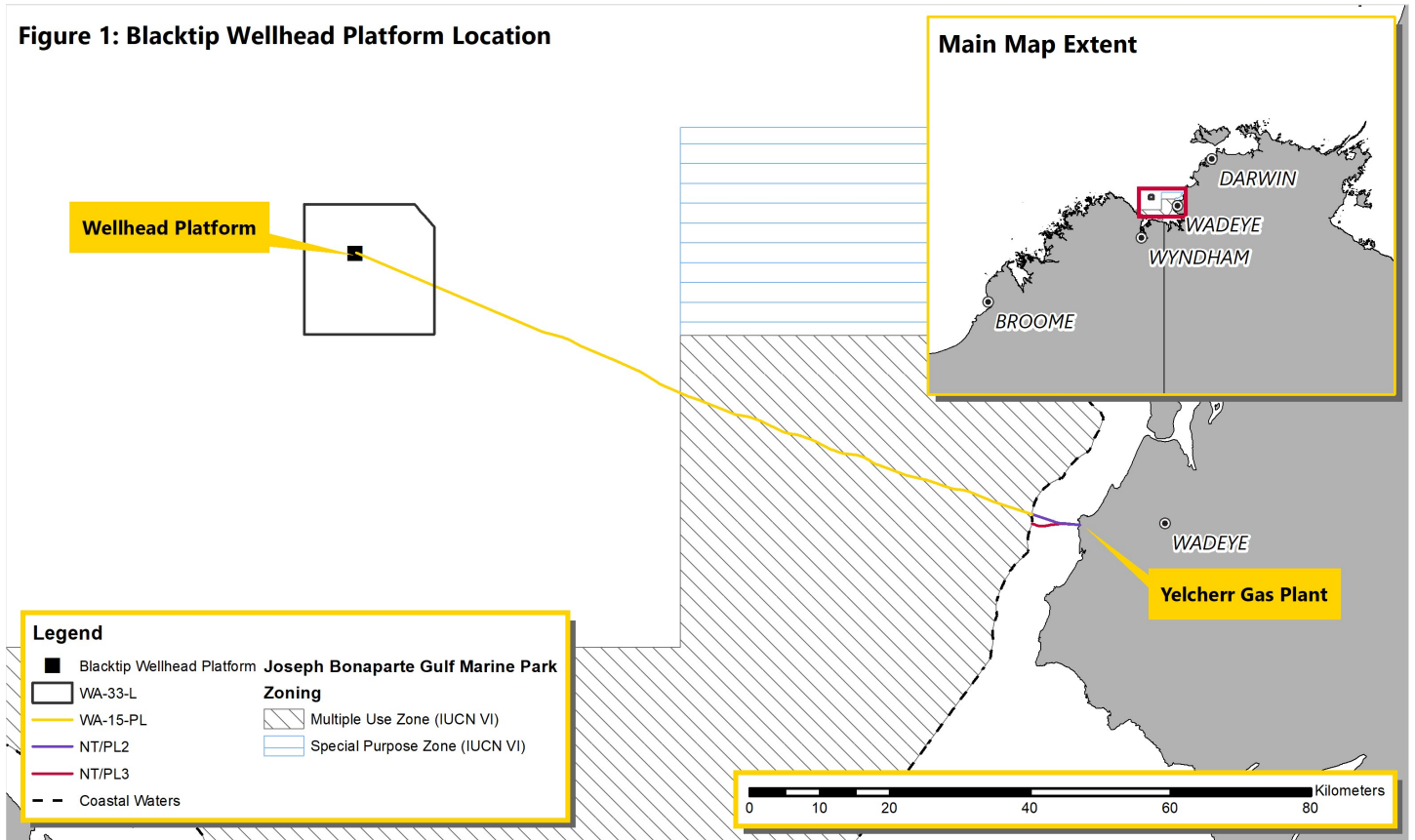
If you think you may be a relevant person, please review this information and provide any feedback to Eni. You are invited to submit your advice on control measures to mitigate potential impact (if any) that the drilling of the additional development well may have on you.

Contact Eni

Email: eniaus.info@eni.com

Post: PO Box 6862
East Perth WA 6892

Figure 1: Blacktip Wellhead Platform Location





Location

The additional development well will be drilled at the Blacktip wellhead platform. The wellhead platform is in Commonwealth waters approximately 300 km south-west of Darwin and approximately 90 km north of the Western Australia coastline. The wellhead platform stands in a water depth of approximately 51 m. All drilling activities are planned to occur within the existing 500 m petroleum safety zone around the Blacktip wellhead platform.

Location details are summarised in **Table 1**. A location map is provided in **Figure 1**.

Timing

The additional development well drilling activities are planned to occur during 2024, subject to jack-up MODU availability, and obtaining regulatory and business approvals. The additional development well is intended to be drilled in a single campaign.

Activities

The following activities will occur during drilling of the additional development well:

- site survey (if required)
- jack-up MODU placement
- drilling and cementing top hole section
- installation of the blowout preventer
- drilling intermediate and production hole sections
- cementing production casing
- well completion and clean-up, including flaring.

Table 1: Location Details

Item	Description
Petroleum titles	WA-33-L
Coordinates (GDA94)	Wellhead platform: <ul style="list-style-type: none"> • 13° 53' 41" S, 128° 29' 3" E
Petroleum Safety Zone	All activities will occur within the 500 m gazetted Petroleum Safety Zone around the Blacktip wellhead platform. Other users of the sea are not permitted to enter the Petroleum Safety Zone without permission from Eni or NOPSEMA.

The Blacktip Offshore Drilling Environment Plan does not cover operations, such as:

- the operation of the wellhead platform, including commissioning of and production from the additional development well
- operation of the gas export pipeline in Commonwealth waters
- operation of the Yelcherr gas plant, the gas (NT/PL2) and condensate export (NT/PL3) pipelines within the northern Territory or Northern Territory waters.

The above activities are managed under separate environment plans.

Environment that may be Affected

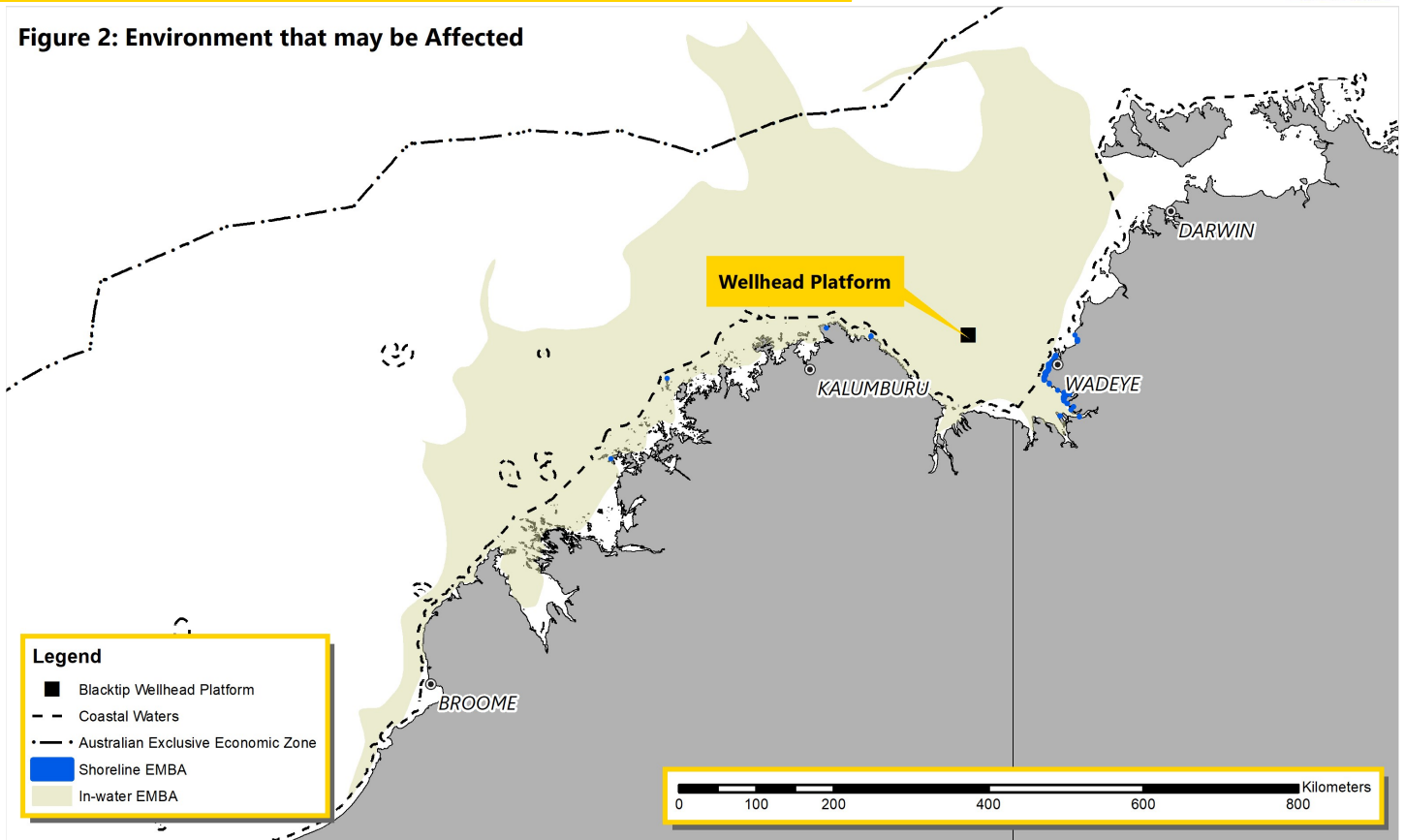
The environment that may be affected (EMBA) encompasses the spatial extent within which the drilling activity could have an environmental impact. The environmental impacts from planned activities will be concentrated within the Petroleum Safety Zone around the wellhead platform. The outermost boundary of the EMBA is based on an accidental release of hydrocarbons to the environment as a result of a loss of well integrity. This event is highly unlikely to occur and Eni implements a range of measures to prevent it. The EMBA is shown in **Figure 2**.

Stochastic modelling is used to determine the EMBA by a hydrocarbon spill and involves combining hundreds of modelling simulations during a range of wind and current conditions. The extent of an actual spill event is more accurately represented by only one of the simulations from the stochastic model, which results in a much smaller spatial extent. Refer to [NOPSEMA's website](#) for information oil spill modelling.

Environmental Management

Eni has assessed the environmental impacts and risks for the drilling of the additional development well. A summary of the assessment and the proposed management measures to reduce the impacts and risks to as low as reasonably practicable and to an acceptable level are provided in **Table 2**. Further details will be provided the Blacktip Offshore Drilling Environment Plan, which NOPSEMA will publish on their website once the plan is submitted.

Figure 2: Environment that may be Affected



Stakeholder Comment and Feedback

Your comment is sought in relation to any potential impact that the proposed activities, covered by the Blacktip Offshore Drilling Environment Plan, may have on your functions, interests or activities. If you wish to provide any comment or feedback on these activities, please do so by 31 July 2023 to the contact details provided below.

If you know anyone who may be a relevant person, we ask that you make them aware of our consultation.

Eni treats all information provided by you as confidential, with the exception of providing information to NOPSEMA. Eni is required to provide NOPSEMA with details of all correspondence with relevant persons, including copies of written correspondence. NOPSEMA routinely publish environment plans under assessment or accepted on their website. Personal information (other than name and contact details) is sensitive information and will not be published in the EP. You can request that any material provided to Eni, including your name and contact details, be treated as sensitive information not to be published in the Blacktip Offshore Environment Plan.

All comments provided will be considered in the Blacktip Offshore Drilling Environment Plan to be submitted to NOPSEMA, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009. Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA in order for this information to remain confidential to

NOPSEMA.

If you wish to opt out of our consultation process after reviewing the information in this letter, please let us know via email.

Please consider NOPSEMA's advice in *Consultation on Offshore Petroleum Environment Plans – Information for the Community* when providing feedback to Eni, which is available on [NOPSEMA's website](#).

Contact Eni

Email: eniaus.info@eni.com

Post: PO Box 6862
East Perth WA 6892

Table 2: Summary of Potential Key Environmental Impact/Risks and Management Measures

Aspect	Description	Potential Impact / Risk	Proposed Management
Planned Impacts			
Interaction with other marine users	<p>The physical presence of the mobile offshore drilling unit (MODU) and movement of vessels within an operational area.</p> <p>Note, all activities will occur within the existing 500 m Petroleum Safety Zone (PSZ) of the Blacktip wellhead platform (WHP).</p>	<p>The presence of the 500 m PSZ, which extends around the MODU and the Blacktip WHP, potentially restricts access of other marine users, such as shipping and fisheries.</p> <p>Several Northern Territory, Western Australian and Commonwealth managed fisheries overlap or are close to the operational area; however, given the activities will occur within the existing PSZ around the Blacktip WHP, no interaction is anticipated.</p> <p>The nearest shipping route is 100 km from the Operational Area and therefore the presence of the vessels and MODU is unlikely to cause any disturbance or displacement of shipping traffic</p>	<ul style="list-style-type: none"> Navigation equipment and procedures, in accordance with legislative requirements. Maritime notices will be complied with. All drilling activities within the existing 500m PSZ around the Blacktip WHP. Other relevant notifications may be made, as requested by stakeholders.
Atmospheric emissions and greenhouse gas	<p>Atmospheric emissions released by the MODU and vessels as a result of combustion for power generation.</p> <p>Atmospheric emissions will also be released from during clean-up via the well test package on the jack-up MODU.</p>	<p>Hydrocarbon combustion may result in a temporary, localised reduction of air quality in the environment immediately surrounding the release point.</p> <p>Non-greenhouse gas (GHG) emissions, such as NO_x and SO_x, and GHG emissions can lead to a reduction in local air quality. GHG emissions from the activities will also contribute to the overall global GHG emissions, however given the scale of the generated atmospheric emissions from the activities, the contribution of atmospheric emissions to the total annual Australian GHG annual emissions is very minor.</p>	<ul style="list-style-type: none"> Use low sulphur fuel on the vessels and MODU, in accordance with legislative requirements (e.g., Marine Orders) Compliance with regulatory requirements for marine air pollution and GHG missions reporting. Use of a well test package with an efficient flare design.
Routine helicopter, vessel and MODU noise	<p>Noise emissions generated through the operation of support vessels, helicopters and jack-up MODU operation and drilling.</p>	<p>Marine mammals and turtles are transitory and, given the low frequency and limited duration of the activities behavioural impacts are expected to be temporary and at the individual level only.</p> <p>Potential impacts are likely to be restricted to localised and temporary avoidance behaviour.</p>	<ul style="list-style-type: none"> Compliance with administrative controls (such as EPBC Regulations Part 8) to reduce interactions with marine fauna
Routine marine discharges	<p>MODU and support vessels will discharge water, cooling water and sewage/grey water to the marine environment.</p>	<p>No significant impacts are expected to water quality from routine discharges due to the relatively minor quantities involved, the expected localised mixing zone and high level of dilution into the open water marine environment.</p>	<ul style="list-style-type: none"> All routine marine discharges will be managed according to legislative requirements.



Aspect	Description	Potential Impact / Risk	Proposed Management
Underwater survey equipment noise	<p>Noise emissions generated through the operation survey instrumentation (e.g., boomer, multi-beam echo sounder and sidescan sonar).</p> <p>Such equipment is designed to characterise the seabed topography, bathymetry, potential geohazards, and other seafloor features prior to jack-up MODU placement at the WHP.</p>	<p>Elevated underwater noise can affect marine fauna including cetaceans, fish, turtles, sharks and rays in three main ways:</p> <ul style="list-style-type: none"> • By causing direct physical effects on hearing or other organs. • By masking or interfering with other biologically important sounds, including vocal communication, echolocation, signals and sounds produced by predators or prey. • Through disturbance leading to behavioural changes or displacement from important areas. <p>The sound generated by the various survey instruments may result in localised and temporary behavioural changes to marine fauna within tens or hundreds of metres.</p>	<ul style="list-style-type: none"> • Compliance with administrative controls (such as EPBC Regulations 8 (Part 8) to reduce interactions with marine fauna
Light emissions	<p>Lights on the jack-up MODU and vessels will be required on a 24-hour basis during the activities for safety and navigational purposes, in accordance with navigational requirements.</p> <p>During flaring additional light emissions will occur from the jack-up MODU at the flare stack.</p> <p>It should also be noted that the flaring is only a maximum of 96 hours.</p>	<p>The drilling location is more than 95 km south north from of the nearest known marine turtle nesting sites at Cape Domett and Lacrosse Island in the Cambridge Gulf. Light is not anticipated to be visible from the nearest turtle nesting sites..</p> <p>It is possible individual turtles may be encountered traversing area of light spill during the activities. However, considering the distance, large numbers of interesting adults are not expected. Light emissions to marine turtles are unlikely to result in more than localised and temporary behavioural disturbance to individuals.</p> <p>No BIAs for seabirds occur within the operational area. The nearest roosting areas are in excess of 75 km of this location. It is possible a small number of seabirds and migratory shorebirds may be attracted to the jack-up MODU and vessels.</p>	<ul style="list-style-type: none"> • Navigation lighting and aids in accordance with legislative requirements



Aspect	Description	Potential Impact / Risk	Proposed Management
Drilling muds and fluid discharges	<p>Drilling may result in the following discharges:</p> <ul style="list-style-type: none"> Routine discharge of Water Based Mud (WBM) and associated drill cuttings Cements Discharges of other fluids such as pit tank cleaning residue and well clean-out fluids Excess bulk products (e.g., cements, bulk powders) 	<p>Discharges of muds and fluids have the potential to impact to:</p> <ul style="list-style-type: none"> Water quality Sediment quality and benthic habitat Local marine fauna <p>Given the quantities of drilling discharges, the low toxicity of WBM and cement and high dispersion in the open, offshore environment, any impact on the marine environment from the discharges are expected to be minor and temporary. Recovery of water quality conditions is expected within hours after the cessation of drilling.</p> <p>The benthic fauna and seabed at the WHP are widely represented on the JBG and previous surveys at the WHP have not indicated any sensitive habitats.</p> <p>Drilling cuttings and cement discharge impacts to the marine environment are associated with smothering of benthic and infauna communities in the vicinity of the well. Due to the localised area of disturbance, impacted benthic communities are expected to rapidly recolonise any disturbed areas upon completion of the activities.</p>	<ul style="list-style-type: none"> Selection of chemicals to reduce impact to as low as reasonably practicable (ALARP) and acceptable Limit set on the hydrocarbon content of the discharged well clean up fluids Bulk powder, fluids and brine discharge framework, to restrict the discharge of left-over bulk products to ALARP Drill cuttings returned to the MODU will be discharged below the water line to facilitate dispersion.
Unplanned Risks			
Loss of non-hazardous and hazardous waste	<p>There is the potential for wastes to be lost overboard to the marine environment from the MODU and support vessels. Waste may be overboard if windblown, particularly during periods of adverse weather.</p>	<p>Potential impacts of hazardous and non-hazardous wastes accidentally released to the marine environment include the potential physical harm to marine fauna resulting from ingestion or entanglement with solid waste (garbage).</p> <p>If accidentally lost overboard, hazardous waste liquids would result in a temporary and highly localised impact on water quality.</p> <p>Eni will apply control measures to ensure the likelihood of the event occurring is reduced to ALARP and acceptable levels.</p>	<ul style="list-style-type: none"> Procedures to reduce the potential for loss of non-hazardous and hazardous waste will be followed.
Marine fauna interaction	<p>There is the potential for vessels to collide with marine fauna, including cetaceans, fish, marine reptiles and seabirds.</p> <p>The main collision risk is through vessel collision with large, slow-moving cetaceans, potentially resulting in severe injury or mortality.</p>	<p>Given the short duration of activities within the Operational Area, and the slow speeds at vessels operate collisions with marine fauna are considered highly unlikely.</p> <p>Eni will apply control measures to ensure the likelihood of the event occurring is reduced to ALARP and acceptable levels.</p>	<ul style="list-style-type: none"> Compliance with administrative controls (such as EPBC Regulations Part 8) to reduce interactions with marine fauna



Aspect	Description	Potential Impact / Risk	Proposed Management
Introduction of marine pest species	There is the potential for introduction and establishment of invasive marine pests to the Operational Area via vessels ballast water or biofouling on vessel hulls.	<p>The risk of introducing IMS is limited by the depth of the operational area (greater than 50 m), which is not directly adjacent to any shallow shoals or banks, with hard substrate to which IMS can attach.</p> <p>Eni will apply control measures to ensure the likelihood of the event occurring is reduced to ALARP and acceptable levels.</p>	<ul style="list-style-type: none"> All vessels will be assessed and managed as appropriate to prevent the introduction of marine pests. Vessels will comply with biosecurity requirements.
Marine diesel oil spills	<p>Marine diesel oil (MDO) will be used by all vessels and the MODU.</p> <p>There are two causes of loss of MDO:</p> <ul style="list-style-type: none"> Refuelling/bunkering incident Collision with another vessel 	<p>Modelling of a MDO was undertaken with the outcome within the 35 km of the release location.</p> <p>Potential impacts include those to plankton, fish, turtles, sea snakes, marine mammals, seabirds and migratory shorebirds, tourism, recreation, commercial fisheries, and cultural heritage.</p> <p>Marine diesel is a relatively volatile, non-persistent nature hydrocarbon with rapid evaporation on the sea-surface.</p> <p>Eni will apply control measures to ensure the likelihood of the event occurring is reduced to ALARP and acceptable levels.</p>	<ul style="list-style-type: none"> Regulatory requirements for the prevention of vessel collisions and safety and emergency arrangements Use of MDO rather than Heavy Fuel Oil (HFO) on vessels (MDO is lighter than HFO and will evaporate faster and persist less in the marine environment) Response plans and equipment will be in place and maintained to manage spills to the environment (e.g., oil pollution emergency plans). Administrative control, such as bunkering / bulk refuelling procedures. Establishment and enforcement of a 500 PSZ around the MODU. Where required, operational and scientific monitoring undertaken in accordance with Eni's Operational and Scientific Monitoring Plan.



Aspect	Description	Potential Impact / Risk	Proposed Management
<p>Loss of containment from well blowout</p>	<p>Accidental loss of hydrocarbons (Blacktip condensate and gas) to the marine environment due to well blowout may occur, caused by failure of technical well barriers (e.g., the Blowout Preventor).</p>	<p>Modelling of a loss of well containment was undertaken with the outcome within the spatial extent of the EMBA (Attachment 2).</p> <p>A weathering study on Blacktip condensate showed the rate of evaporation of Blacktip condensate is rapid, with 67% of the volume of the condensate lost within the first two hours and 89% by eight hours.</p> <p>Potential impacts across the EMBA to plankton, fish, turtles, sea snakes, marine mammals, seabirds and migratory shorebirds, tourism, recreation, commercial fisheries, and cultural heritage.</p> <p>Eni will apply control measures to ensure the likelihood of the event occurring is reduced to ALARP and acceptable levels.</p>	<ul style="list-style-type: none"> • Procedures to reduce the potential for uncontrolled hydrocarbon releases will be followed. • Wells to be drilled in compliance with the accepted WOMP including implementation of barriers to prevent a loss of well control • A blowout preventer will be installed and tested • A Source Control Emergency Response Plan will be prepared including specifics drilling a relief well. • Response plans and equipment will be in place and maintained to manage spills to the environment (e.g., oil pollution emergency plans). • Where required, operational and scientific monitoring undertaken in accordance with Eni's Operational and
<p>Minor spills and leaks</p>	<p>Hydrocarbon and hydraulic fluids (less than 1 m³) from:</p> <ul style="list-style-type: none"> • ROV failure • Structural failure of infrastructure containing MDO on, vessel or MODU. • Fluid and base oils from flaring drop-out (less than 1 m³). 	<p>In the event of minor spills and leaks, impacts will be localised and temporary due to the low spill volume and rapid dilution in the marine environment. Accidental releases of chemicals to the marine environment will not result in potential impact greater than temporary contamination above background water quality or known effect concentrations.</p> <p>Eni will apply control measures to ensure the likelihood of the event occurring is reduced to ALARP and acceptable levels.</p>	<ul style="list-style-type: none"> • Vessel spill response plan (Shipboard Oil Pollution Emergency Plan (SOPEP)) • On-board spill response kits • Flare management to reduce the risk of flare drop-out

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RELEVANT PERSONS FOR BLACKTIP ENVIRONMENTAL PLAN



📅 27/12/2023



Enquire Now

✉ Send Message

Contact details

Ian Noonan

☎ (08) 9450 ...

☎ Call

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← Scan here for further information on the Blacktip Drilling EP

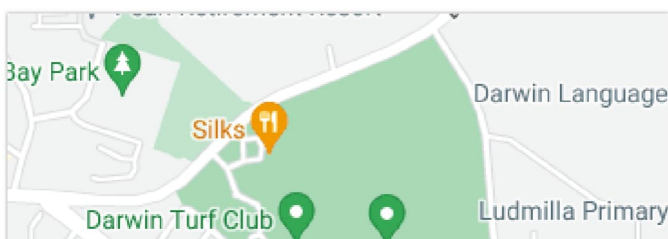


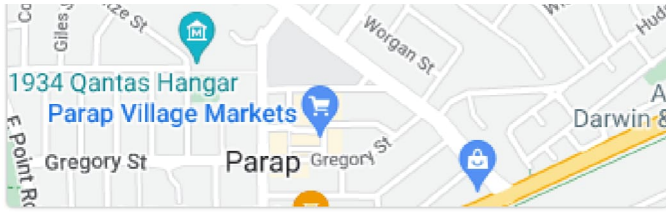
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Eniaus.hsefeedback@eni.com

📍 Darwin 0820





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Public Notice

Lake Kununurra to be lowered for dam works

Water Corporation plans to lower the level of Lake Kununurra for up to two weeks between **8 and 22 January 2024** for seasonal inspection works.

If you have pumping or other ancillary equipment in the vicinity of the Ord River, please consider the risks and preventative measures that may need to be taken. Boats and barges on Lake Kununurra, Packsaddle and Crossing Falls will need to be removed from the water as securing them will not be sufficient. Boats in Lilly Creek Lagoon may remain in the lagoon provided they are properly secured as once the water recedes they will sit on the river bed.

If you would like to be notified prior to significant change in Lake Kununurra water levels, please contact us on (08) 9168 0736 or email your contact details to kununurrapot@watercorporation.com.au.

For further information, please visit watercorporation.com.au/kununurra

We thank the community in advance for their cooperation.

watercorporation.com.au



KING'S CHURCH KUNUNURRA

A Christian Pentecostal Church

SUNDAYS at 10.00AM

ARGYLE ROOM @THE KIMBERLEY GRANDE RESORT VICTORIA H'WY KUNUNURRA

Sunday school class for 3-11 yo

Enquiries Ph 0407 937 507

Pastors Bruce & Terri Connell



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'

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VI-NTNEU1Z01M4

Funeral Notices

MAITLAND:
The Funeral Service for the late Mrs Betty Carmen Maitland of Dianella, formerly Bunbury will be held in the Funeral Chapel 9 Spencer St Bunbury commencing at 11.00am MONDAY (08.01.2024). At the conclusion of the Service, the Cortege will proceed to the BUNBURY Cemetery for a Burial.

WILLIAM BARRETT & SONS
9722 5311
BUNBURY
Place a Tribute at barrettfunerals.com.au
South West Family-Owned

MARCHESE:
The Funeral to Celebrate the Life of Teodoro 'Terry' Marchese will be held at the St Lawrence & Mary Immaculate Church, Balcatta on FRIDAY (22.12.2023) at 2.00pm. A Rosary and Viewing will be held at the church on THURSDAY (21.12.2023) evening at 7.00pm.

Perth Cremations & Burials
Transparency Integrity Excellence
1800 331 990

MARTINS:
A Funeral Mass to honour the life of Gladstone Martins of Canning Vale will be held at St Emilie De Vialar, 151 Amherst Rd, Canning Vale on FRIDAY (22.12.23) 1.45pm followed by a Burial at FREMANTLE Cemetery at 3.15pm.

Remembrance Funerals
1300 799 093
WA Family Owned
ALL AREAS

MILES:
Family and friends are warmly invited to the Funeral Service for Harry Maxwell Miles of Cardup in our Chapel, 1 Tulloch Way, Canning Vale at 10:00am on FRIDAY (22.12.2023).

Seasons
1800 732 766
CANNING VALE

PAGE:
The Funeral Service for Jean Page of Rossmoyne will be held in our Chapel, 312 South Street, Hilton, commencing at 1:00pm on FRIDAY (29.12.2023). The cortege will arrive at FREMANTLE Cemetery, Carrington Street, Palmyra at 3.15pm for a Burial Service. Please assemble at the Samson Pavilion at 3.15pm.

Leanne O'DEA
FREMANTLE
312 SOUTH STREET
HILTON 9239 7744
WA Family Owned
www.leanneodea.com.au

PAPPAS:
The Funeral Service for Mr Christos Pappas will be held in the Greek Orthodox Church of Evangelismos, 59 Carr Street, West Perth commencing at 10:00am THURSDAY (28.12.2023). The Cortege will leave the Church at the conclusion of the Service and arrive at the Main Entrance of KARRAKATTA Cemetery, Railway Road, Karrakatta at 12:00pm for a Burial Service.

BOWRA & O'DEA
502 WANNEROO RD
WESTMINSTER 9464 7266
WA Family Owned
www.bowraodea.com.au

PENMAN:
The Service to Celebrate the life of Mrs Barbara Penman will be held in the Funeral Home Chapel of Mareena Purslowe Funerals, 108 Pinjarra Rd Mandurah commencing at 1:00pm on FRIDAY (29.12.2023). Those wishing to join via livestream will find the link on our website under 'Upcoming Funerals'

MAREENA PURSLOWE FUNERALS
MANDURAH 08 9554 4844

PREVITI:
The Funeral Mass for Mrs Franca Previti of Noranda will be celebrated in Sacred Heart Catholic Church, 64 Mary Street, Highgate commencing at 9:30am on WEDNESDAY (27.12.2023). The Rosary will be recited prior to the Mass at 9:00am. After the Mass the Cortege will leave the Church to arrive at the Main Entrance of KARRAKATTA Cemetery, Railway Road, Karrakatta at 11:15am for a Burial Service.

BOWRA & O'DEA
231 GRAND PROMENADE
DIANELLA 9229 7700
WA Family Owned
www.bowraodea.com.au

RITCHIE:
The Funeral Cortege for Jessie Ritchie of O'Connor formerly of Palmyra will arrive at FREMANTLE Cemetery, Carrington St, Palmyra at 10:00am on WEDNESDAY (27.12.2023) for a Cremation Service. Please assemble at the Carrington Pavilion from 9:30am.

BOWRA & O'DEA
FREMANTLE
312 SOUTH STREET
HILTON 9239 7744
WA Family Owned
www.bowraodea.com.au

RITCHIE:
Family and Friends are warmly invited to the Funeral Service for Doreen Edith Ritchie, in our Seasons Chapel, corner Albany Highway and Armitage Road, Kelmescott at 10.00am WEDNESDAY (20.12.2023).

Seasons
1800 732 766
ARMADALE - KELMSCOTT

ROBERTS:
Family and Friends are invited to Celebrate the Life of Barbara Roberts, formerly of Kelmescott, in our Seasons Kelmescott Chapel, 2976 Albany Hwy, on FRIDAY (22.12.2023) commencing at 10.00am.

Seasons
1800 732 766
ARMADALE - KELMSCOTT

SAGE:
The Funeral Service for the late Colin George Sage of Brigadoon will be conducted in the Norfolk Chapel of KARRAKATTA Cemetery on FRIDAY (22.12.2023) commencing at 11:15am.

Peaceful Funeral Services
9452 0452

SILVESTRI:
The Funeral Mass for Mr Michele Giuseppe Silvestri of St James will be celebrated in Our Lady Help of Christians Catholic Church, 43 Camberwell Street, East Victoria Park. Commencing at 10.15am, WEDNESDAY (3.01.2024). The cortege will leave the Church at the conclusion of Mass and arrive at the main entrance of KARRAKATTA Cemetery, Railway Road, Karrakatta at 12:15pm for an Entombment Service.

Vigil Prayers and Rosary will be recited in Bowra & O'Dea's Cannington Chapel, 1307 Albany Highway, Cannington at 7.00pm on TUESDAY (2.01.2024).

BOWRA & O'DEA
1307 ALBANY HWY
CANNINGTON 9461 7133
WA Family Owned
www.bowraodea.com.au

STRATFORD:
A Private Funeral Service for Mr Leslie Stratford late of Bentley was held at Purslowe & Chipper Funerals Chapel, Victoria Park.

Purslowe & Chipper Funerals
MYAREE 08 9330 6344

STRAUCH:
The Funeral Service for Mrs Dale Strauch of Boulder will take place in Bowra & O'dea's Mandurah Chapel, 460 Pinjarra Road, Greenfields (corner of and entry via Old Pinjarra Road) commencing at 10am THURSDAY (28.12.2023). Cremation will take place privately at a later time.

BOWRA & O'DEA
460 PINJARRA RD
GREENFIELDS
MANDURAH 9535 4261
WA Family Owned
www.bowraodea.com.au

SUMICH:
Family and friends are warmly invited to a Funeral Service for Louis Cyril Sumich of Success, in our Chapel 8 Argong Chase, Cockburn Central at 2:00pm on WEDNESDAY (27.12.2023). A Private Cremation Service will be held at a later time

Seasons
1800 732 766
REDCLIFFE - BELMONT

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PUBLIC NOTICES

GENERAL
Government of Western Australia
Public Transport Authority
Declaration of Navigational Hazard and Requirement to Remove Vessel
WESTERN AUSTRALIAN MARINE ACT 1982
Serpentine River - Adjacent to jetty 0235 Bertram Street

An unidentified vessel, is currently sunk in navigable waters and extends approximately 2m beyond jetty 0235 on the Serpentine River.
In the opinion of a Department of Transport (DoT) Inspector appointed under the Western Australian Marine Act 1982, this vessel is likely to constitute a hazard or obstruction to other vessels using the surrounding navigable waters as a result of being sunk in shallow waters. Accordingly, the Executive Director Maritime (a delegate of the Chief Executive Officer of DoT) hereby:
1. Declares the vessel to be a navigational hazard; and
2. Requires the owner to remove the vessel and all remnants from navigable waters within 7 days of the date of this notice.

In accordance with section 71(2) of the Western Australian Marine Act 1982, the vessel, within the 7 days specified, will result in the vessel being removed from all navigable waters by DoT.
Pursuant to section 71(3) and 71(4B) of the Western Australian Marine Act 1982, the cost of removal of this vessel will be a debt due to the Crown and will be recovered either by action in a court of competent jurisdiction against the owner and/or by the sale of the vessel.
Queries in relation to this matter can be directed to the Navigational Safety Team Leader on mobile telephone 0436 664 789 or email navigational.safety@transport.wa.gov.au

Chris J Mather
Executive Director Maritime
Department of Transport
Delegate of the Chief Executive Officer

ROAD TRAFFIC ACT 1974
SECTIONS 80G (3)(E) AND 80G(4) (B)
NOTICE OF INTENTION TO MAKE APPLICATION TO A COURT FOR AN ORDER TO IMPOUND AND CONFISCATE A VEHICLE
Pursuant to the Road Traffic Act 1974, the Western Australia Police hereby advise the below mentioned vehicles are subject to pending applications to have them impounded or confiscated.

W.A. Registration: 1DBX431
Vehicle: Hyundai Getz
Magistrates Court: Armadale
W.A. Registration: 1E1W597
Vehicle: Ford Ranger
Magistrates Court: Rockingham
W.A. Registration: BSN589E
Vehicle: Toyota Hilux
Magistrates Court: Busselton
W.A. Registration: AU0947
Vehicle: Honda Motor Cycle
Magistrates Court: Joondalup
Any person with an interest in any of these vehicles who wishes to make a submission to the Court regarding the application to impound or confiscate the vehicles is advised to contact the relevant Magistrates Court Registry.
Col BLANCH
Commissioner of Police

GENERAL
PRIVATE patients of Mr Eamonn McCloskey are advised that medical records of patients born on/before 31Dec1988 AND LAST SEEN BEFORE 1Jan2008 are due for destruction.
Patients or person on behalf of a patient [on provision of Enduring Power of Guardianship] may obtain more information by writing to Mr McCloskey's Practice Manager, 205/25 McCourt St, Subiaco WA 6008 providing their (patient's) name, date of birth and full contact details. ALL enquiries must be received by 31Mar2024.

DECEASED ESTATES
ESTATE OF NEIL DAVID GLENN
TRUSTEES ACT 1962 in the estate of NEIL DAVID GLENN who died 10 September 2023 late of 3/48 Ashley Rd, Tapping, Western Australia.
CREDITORS and other persons having claims (to which section 63 of the Trustees Act 1962 relates) in respect of the estate of the said deceased person are required by Patricia Mary Best, late of 15a Waterside Crescent, Gwelup, WA. 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 26/08/2023 at St John of God Hospital, Subiaco, WA, aforesaid are required by Brioni May Gamble and Pamela Margaret Graham and Nicola Margaret Best, the Executrices, C/- Durey Legal of 30 Anthony Street, South Perth, to send particulars of their claims to the Executrices by 24 January 2024 after which date the Executrices may convey or distribute the assets having regard only to the claims of which she then has notice.

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ESTATE OF NEIL DAVID GLENN
TRUSTEES ACT 1962 in the estate of NEIL DAVID GLENN who died 10 September 2023 late of 3/48 Ashley Rd, Tapping, Western Australia.
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NOTICE TO CREDITORS AND CLAIMANTS
LILLIAN NORA BRINDLEY late of 138 Lewis Road, Forrestfield, Western Australia who died on 7 July 2023. 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 or before 7 July 2023 are required by the Executrices, to send particulars of their claims to the Executrices within one month from the date of publication of this notice, after which date the Executrices may convey or distribute the assets, having regard only to the claims of which he has notice.

DECEASED ESTATES
TRUSTEES ACT, 1962
NOTICES TO CREDITORS AND CLAIMANTS
Notice to CREDITORS and other PERSONS having claims (to which section 63 of the Trustees Act relates) in respect of the Estates of the under mentioned Deceased persons,
Deceased Estate of Gertrude Humphries, aka Weenie, Gertrude Humphreys, Mrs Ernie Humphries, different names with various spelling, whom died on the 9th of October 1983, of Residential Address of 123 Toorak Road, Rivervale, Western Australia, 6103 and Postal Address, at time of death was, Post Office Box 116 Kellerberrin, Western Australia, 6410, and,
Deceased Estate of William Humphries, who died on 14 April 1998, of 6 Dixon Drive, Western Australia, 6056,
Are required to send particulars of their claims to THE TRUSTEE FOR GERTRUDE HUMPHRIES of 41 Borah Court, Caversham, Western Australia, 6055, and, The Trustees and Administrators of William Humphries, 41 Borah Court, Caversham, Western Australia 6055, within 30 days of the date of publication of this notice, the respective dates shown hereunder, after which dates, we, Wilma Humphries and Rebecca Lee Humphries, whom stand in full capacity, with all rights reserved, as Administrators and Trustee of both the Estates above, shall have no liability in respect of the assets, having regard only to the claims of which we then have notice.

DECEASED ESTATES
TRUSTEES ACT 1962 - Notice to Creditors and Claimants
LILLIAN NORA BRINDLEY late of 138 Lewis Road, Forrestfield, Western Australia who died on 7 July 2023. 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 or before 7 July 2023 are required by the Executrices, to send particulars of their claims to the Executrices within one month from the date of publication of this notice, after which date the Executrices may convey or distribute the assets, having regard only to the claims of which he has notice.

RAFFLE RESULTS
LIONS CLUB OF KWANANA Christmas Stocking Raffle Permit No. L3220481723. Results: 1st prize 0118; 2nd prize 0036; 3rd prize 0162. All prizes claimed. Thanks to all ticket buyers.

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NOTICE TO CREDITORS AND CLAIMANTS
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eni Relevant Persons for Blacktip Environmental Plan

Eni is an international energy company committed to sustainable and responsible energy transition.

Since 2009, Eni has been operating and supplying domestic gas from its offshore Blacktip facility located in the Bonaparte Basin. Domestic gas supply from the Blacktip facility has contributed to the majority share of gas production for the Northern Territory's power generation needs over the past 10 years.

To support Blacktip's ongoing operations, Eni plans to undertake offshore activities to add a further gas production well at its offshore facility. Located wholly within Commonwealth waters, at the closest point the area of the planned activities is located approximately 300km Southwest of Darwin and 108km from the Northern Territory coastline.

We wish to hear from relevant persons or organisations whose functions, activities, or interests may be affected by the proposed offshore activities. These may include people and communities, social, cultural and heritage, commercial or recreational, tourism and local interests which may be affected by the proposed activities.

For more information on the proposed activities, to raise a relevant matter or provide feedback please access the QR Code below. Your feedback and consultation as a relevant person is very important to us.

Scan here for further information on the Blacktip Drilling EP

Scan here for further information on the Blacktip Operations EP

Contact
If you have any questions, please contact the consultation team directly at Eniaus.hsefeedback@eni.com

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PUBLIC NOTICES



Department of
**Primary Industries and
Regional Development**

FISH RESOURCES MANAGEMENT ACT 1994

Notice Before Giving Effect to Decision to Grant, Vary or Transfer Authorisation(s)

Section 148(1)(b) – Notice of Decision to –

• Vary Fish Processors Licence Sea Based No. 1293 held by the Live Seafood Company Pty Ltd, to change the authorised processing establishment from 2/21 Emplacement Crescent, HAMILTON HILL to 2/14 Sphinx Way, BIBRA LAKE and include the processing of prawns and scallops and authorise the export of Rock Lobster.

In accordance with the provisions of Section 149 of the Act affected persons in relation to a decision referred to in Section 148(1)(a) or (b), being any persons who:

- i. hold a fish processor's licence; and
- ii. are likely to be significantly affected by the decision,

may, under section 149, apply for a review of the decision. Information about how to apply for a review of the decision is set out at the end of this advertisement.

Notice Before Giving Effect to Decision to Grant, Vary or Transfer Authorisation(s)

Section 148(1)(c) – Notice of Decision to –

• Transfer Aquaculture Licence No. 1426 to David Fry & Jane Watkins.

In accordance with the provisions of Section 149 of the Act affected persons, being any persons who:

- i. hold an aquaculture licence; and
- ii. are likely to be significantly affected by the decision,

may, under section 149, apply for a review of the decision. Information about how to apply for a review of the decision is set out at the end of this advertisement.

Affected persons may apply to the State Administrative Tribunal (SAT) for review of the decision. Application forms can be obtained from the SAT located at Level 6, 565 Hay Street, Perth, WA or from the SAT's website at www.sat.justice.wa.gov.au. The application together with any supporting documents and the prescribed fee should be lodged with the SAT within 28 days of publication of this Notice. The applicant must give a copy of the application to the Chief Executive Officer, Department of Primary Industries and Regional Development, Level 3, 1 Nash Street, Perth, WA on the same day that the application is lodged with the SAT.

For further information on any of the above matters, please contact the Department of Primary Industries and Regional Development on 1300 374 731.

Heather Brayford
Chief Executive Officer

DPIRD_19390

RAFFLE RESULTS

A WINNER HAS BEEN DRAWN!
The competition winner for Leap Start Early Learning Childcare Southern River is **Fana Abraha**. Congratulations!

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Government of Western Australia
Department of **Planning, Lands and Heritage**

CLASS 'A' RESERVE 883 – Claremont Park, Town of Claremont

LAND ADMINISTRATION ACT 1997 (LAA)

I, Anthony Kannis, Director General, Department of Planning, Lands and Heritage under delegation of the Minister for Lands, give notice pursuant to section 42(5) of the *Land Administration Act 1997*, that it is intended to act in relation to Class 'A' Reserve 883, known as Claremont Park.

It is proposed to amend the boundaries of Class 'A' Reserve 883 by excising a 243 square metre portion to include into adjacent Class 'C' Reserve 21710.

Reserve 883 is set aside for 'Recreation', while Reserve 21710 is set aside for 'Community Purposes' and is the site of a kindergarten and a community centre. This proposed excision will align the land tenure properly with regards to the fenced area of the kindergarten.

Prior to proceeding with this action, you have the opportunity to provide comments on the proposal within 30 days of the publication of this notice. To enable your comments to be taken into account or to arrange a viewing of the relevant plans, please contact Mr Kyle Tuck by email Kyle.Tuck@dplh.wa.gov.au or the Department of Planning, Lands and Heritage, Locked Bag 2506 Perth WA 6001 or telephone (08) 6552 4796, quoting the following reference numbers:

File No. 02602-1892

Case No. 2201035

DIRECTOR GENERAL
DEPARTMENT OF PLANNING, LANDS AND HERITAGE

DOPLH_19377

It's easy. Call now!



Relevant Persons for Blacktip Environmental Plan

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Since 2009, Eni has been operating and supplying domestic gas from its offshore Blacktip facility located in the Bonaparte Basin. Domestic gas supply from the Blacktip facility has contributed to the majority share of gas production for the Northern Territory's power generation needs over the past 10 years.

To support Blacktip's ongoing operations, Eni plans to undertake offshore activities to add a further gas production well at its offshore facility. Located wholly within Commonwealth waters, at the closest point the area of the planned activities is located approximately 300km Southwest of Darwin and 108km from the Northern Territory coastline.

We wish to hear from relevant persons or organisations whose functions, activities, or interests may be affected by the proposed offshore activities. These may include people and communities, social, cultural and heritage, commercial or recreational, tourism and local interests which may be affected by the proposed activities.

For more information on the proposed activities, to raise a relevant matter or provide feedback please access the QR Code below. Your feedback and consultation as a relevant person is very important to us.



Scan here for further information on the Blacktip Drilling EP



Scan here for further information on the Blacktip Operations EP

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RUSCONI (Antonio):

KEOGH:

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 eni australia	Company document identification 000036_DV_PR.HSE.0887.000	Owner document identification	Rev. index.	
			Validity Status	Rev. No.
			PR-OP	04

APPENDIX C4:

2023/24 RELEVANT PERSON CONSULTATION RECORDS

Organisation	Target Group	Correspondence type	Outgoing or Incoming	Date	Summary of correspondence	Relevant matter or claim	Consultation status as per Section 25
<i>Department/Agency/Ministry</i>							
Australian Communications & Media Authority (ACMA) within the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDC) (Cth)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult ACMA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow ACMA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for ACMA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	13/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	14/07/2023	Enquiry was directed to the relevant line for an expert response.	-	
		Email	Incoming	14/07/2023	ACMA reviewed the information relating to the EMBA by Eni's activities and note that there is no overlap with existing protection zones declared by ACMA. ACMA advised that the AHO and VOCUS should be consulted. ACMA states that they do not require further engagement with Eni regarding the Blacktip activities at this time.	Y	
		Email	Outgoing	13/11/2023	Eni thanked ACMA for the information provided and advised that VOCUS and AHO had been contacted.	-	
Australian Fisheries Management Authority (AFMA) (Cth)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult AFMA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow AFMA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for AFMA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	13/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	13/07/2023	Automated reply stating AFMA representative would not be in the office until 14/07/2023.	-	
		Email	Incoming	18/07/2023	AFMA representative informs Eni that the flyers were not attached to the previous email.	-	
		Email	Outgoing	18/07/2023	Email sent by Eni with flyers attached.	-	
		Email	Incoming	18/07/2023	AFMA representative thanks Eni and says they will have a look over the flyers.	-	
		Email	Incoming	19/07/2023	AFMA stated they have no specific comment regarding the Blacktip operations but encourage Eni to contact the Northern Prawn Fishery.	Y	
		Email	Outgoing	18/08/2023	Follow up email on consultation initiation issued 22/06/2023. ENI noted that no response had been received.	-	
		Email	Incoming	18/08/2023	AFMA states they did respond to the initial email and will resend their response	-	
		Email	Incoming	18/08/2023	Resent original email stating that AFMA have no specific comment but encourage Eni to contact the Northern Prawn Fishery.	-	
		Email	Outgoing	18/08/2023	Eni thank AFMA for their response and inform AFMA that the NPF has been attempted to contact however the message was undeliverable and asks for an alternate email address for the NPF.	-	
		Email	Outgoing	14/03/2024	Initial outgoing consultation email to relevant persons was recirculated. Noted that no response had been received.	-	
		Phone Call	Outgoing	14/03/2024	Eni called (02) 6225 5555 however number is not connected.	-	
		Email	Incoming	14/03/2024	AFMA representative forwards previous email chain between Eni and AFMA with response to consultation efforts.	-	
		Email	Outgoing	14/03/2024	Eni requests advice from AFMA on best person to contact at the Northern Prawn Fishery Industry association.	-	
Email	Incoming	14/03/2024	AFMA provides contact details of Northern Prawn Fishery Industry representative.	-			
Australian Hydrographic Office (AHO) (Cth)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult AHO since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow AHO to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for AHO to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	13/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	14/07/2023	AHO acknowledged they had received the email from Eni. AHO indicates that the data received will be registered, assessed, prioritised and validated in preparation for updating their Navigational Charting products. Indicated that these standards result in some data generalisation or filtering due to the scale of existing charts, proximity to other features, and the level of risk a reported feature presents to mariners.	-	
Australian Maritime Safety Authority (AMSA) (Cth)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult AMSA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow AMSA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for AMSA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	17/07/2023	AMSA requested that Eni: <ul style="list-style-type: none"> • Contact the Australian Hydrographic Office at datacentre@hydro.gov.au no less than four weeks before operations, with details relevant to the operations. The AHO will promulgate the appropriate Notice to Mariners (NTM), which will ensure other vessels receive information of your activities. • Notify AMSA's Joint Rescue Coordination Centre (JRCC) by e-mail to rccaus@amsa.gov.au (Phone: 1800 641 792 or +61 2 6230 6811) for promulgation of radio-navigation warnings at least 24-48 hours before operations commence. Include vessel details (including name, callsign and Maritime Mobile Service Identity (MMSI)), satellite communications details (including INMARSAT-C and satellite telephone numbers), area of operation, requested clearance from other vessels and any other information that may contribute to safety at sea and operations start and end • ENI should plan to provide updates to both the Australian Hydrographic Office and the JRCC on progress and, importantly, any changes to the intended operations. It is also requested that appropriate lights and shapes are exhibited that are appropriate to reflect the nature of operations.	Y	
		Phone Call	Outgoing	26/09/2023	Eni spoke to AMSA representative who advised the Quality Assurance Support Officer is not available and will call back.	-	
		Phone Call	Outgoing	8/11/2023	Eni called AMSA Quality Assurance Officer, they were without issue regarding the Blacktip Operations but advised Eni to contact the nautical advice team.	-	
		Email	Outgoing	15/11/2023	Eni responded to email with overview of spill modelling and the related EMBA including references to the OSMP and OPEP developed for the proposed activities	-	
		Email	Outgoing	16/11/2023	Eni reply to AMSA's Email from the 17/07/2023 informing AMSA that the information and advice provided in their email has been noted and these items will be addressed in the project planning process. Eni also ask if they have any concerns or if this matter can be closed.	-	
		Email	Outgoing	28/11/2023	Eni retracted email sent the 15/11/2023 as it was meant for a different stakeholder.	-	

		Email	Outgoing	20/03/2024	Eni followed up with AMSA regarding the email sent 16/11/2023 which did not receive a response.	-	
		Email	Outgoing	25/03/2024	Email requesting for response by 28 March 2024 should they view themselves a Relevant Person.	-	
Clean Energy Regulator (CER) (Cth)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult CER since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow CER to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for CER to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on previous consultation. Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Incoming	8/09/2023	CER have referred ENI's enquiry to the appropriate section for a response.	-	
		Email	Outgoing	14/11/2023	Email to CER to follow up on previous response (08/09/2023) and whether or not they have referred ENI's enquiry to the appropriate section.	-	
		Email	Incoming	17/11/2023	CER thank Eni for the enquiry. CER confirm they have been in touch with the appropriate section referred to in previous their email. CER states the appropriate section has received it and will provide a response directly.	-	
Department of Agriculture, Fisheries & Forestry (DAFF) (Cth)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult DAFF since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DAFF to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DAFF to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	14/07/2023	Automated response indicating their email address has changed to conveyance.maritime@aff.gov.au	-	
		Email	Outgoing	6/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Incoming	6/09/2023	Automated response indicating that they will endeavour to get back to ENI as soon as possible	-	
		Email	Incoming	8/09/2023	DAFF suggest that that the intended operating practices may expose domestic conveyances (support vessels and aircraft) to interactions with the Installation/PIV/MODU which may pose an unacceptable level of biosecurity risk. The DAFF outline a number of guidelines that must be followed to be eligible for an exception from biosecurity control. DAFF further requested access to a Biosecurity Management Plan and Sail Away Reports to further assess the application	Y	
		Email	Outgoing	20/11/2023	Eni informs the DAFF that the information and advice provided in their email has been noted and these items will be addressed in the planning process. Eni asks if the DAFF has any concerns with this approach and if they could please advise if this matter is closed.	-	
		Email	Incoming	20/11/2023	Automated response indicating that they will endeavour to get back to ENI as soon as possible.	-	
Department of Foreign Affairs and Trade (DFAT)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult DFAT since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DFAT to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DFAT to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Follow up email on previous consultation (06/09/2023). Noted that no response had been received. Were requested to respond by Thursday 30 November should they view themselves a Relevant Person.	-	
		Email	Incoming	20/11/2023	Response informing Eni that DFAT persons is on leave.	-	
		Email	Outgoing	22/11/2023	Resent initial outgoing consult emails and flyers to alternate email addresses dfat.wa@dfat.gov.au and dfat.Darwin@dfat.gov.au	-	
		Email	Incoming	22/11/2023	Automated response informing Eni DFAT WA had received the email	-	
		Email	Incoming	22/11/2023	Automated response informing Eni DFAT Darwin had received the email	-	
Department of Industry, Science & Resources (DISR) (Cth)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult DISR since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DISR to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DISR to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Follow up email on previous consultation (06/09/2023). Noted that no response had been received. Were requested to respond by Thursday 30 November should they view themselves a Relevant Person.	-	
Department of Defence (DOD) (Cth)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult DOD since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DOD to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DOD to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Incoming	6/09/2023	Requested that all correspondence be directed to the offshore Petroleum enquiry inbox.	-	
		Email	Incoming	8/09/2023	Offshore Petroleum inbox overtaken by different representative. Indicated they will have a response from Defence Stakeholders.	-	
		Email	Incoming	21/09/2023	DOD advise that the wellhead is located in a restricted area R264G and that NOTAM could be activated depending on the activity. DOD also advise there may be risk to the drilling companies aviation operation in support of the well if the ADF were to conduct a large scale exercises such as Pitch Black, Talisman Sabre or Kakadu and that there may be times when access will not be permitted to the restricted area. DOD further advised that there may be unexploded ordinance in the area. Requested continued liaison with the Australian Hydrographic Service for Noticers to Mariners to ensure the AHS is notified three weeks before commencement of activities.	Y	
		Email	Outgoing	6/11/2023	Follow up email detailing that ENI will comply with all DOD directives.	-	
		Email	Outgoing	20/03/2024	Consultation email resent requesting feedback. Correspondence included attachment of the 2023 activity factsheets.	-	
Director of National Parks (DNP), Parks Australia, part of the Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult DNP since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DNP to
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	

		Email	Outgoing	14/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DNP to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Incoming	7/12/2023	DNP notes that the planned activities do not overlap with any Australian Marine Parks, therefore there are no authorisation requirements from the DNP. DNP confirms that they do not require further notifications of progress made in relation to this activity unless an overlap with or new impact to a marine park, or for emergency responses. DNP have requested to be made aware of oil/gas pollution incidences which occur within a marine park or are likely to impact on a marine park. Notification should be provided to the 24 hour Marine Compliance Duty Officer at (04)19293465 and include: titleholder details, time and location of the incident (including name of marine park likely to be effected), proposed response arrangements as per the OPEP, confirmation of access to relevant monitoring and evaluation reports when available; and contact details for the response coordinator.	Y	
Maritime Border Command (MBC), part of Australian Border Force (ABF), part of the Department of Home Affairs (DHA)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult MBC since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow MBC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for MBC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Follow up email on previous consultation (06/09/2023). Noted that no response had been received. Were requested to respond by Thursday 30 November should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/03/2024	Initial outgoing consultation email to relevant persons was recirculated.	-	
National Offshore Petroleum Titles Administrator (NOPTA) (Cth)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult NOPTA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow NOPTA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for NOPTA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 20nd September should they view themselves a Relevant Person.	-	
		Email	Incoming	14/09/2023	NOPTA acknowledges the notification but does not provide comment on these matters.	-	
Office of Northern Australia (ONA), within the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDC) (Cth)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult ONA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow ONA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for ONA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	13/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 20nd September should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Follow up email on previous consultation (13/09/2023). Noted that no response had been received. Were requested to respond by Thursday 30 November should they view themselves a Relevant Person.	-	
Aboriginal Areas Protection Authority (AAPA) (NT)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult AAPA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow AAPA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for AAPA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	13/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	14/07/2023	Request for spatial data of project boundaries received from AAPA.	Y	
		Email	Incoming	24/07/2023	AAPA considers informs Eni that it views itself an interested person under NOPSEMA guideline. AAPA express concern that a spill may damage sacred sites within the EMBA. AAPA has been in consultation with the Territory Emergency Management Council (TEMC) on how to manage a spill to the coastline in a culturally sensitive way to protect sacred sites. The APPEA Oil Spill Working Group met with TEMC where Authority Certificates and the certificate process were discussed. Recommendation was for Eni to contact APPEA for an update and details of the meeting.	Y	
		Email	Outgoing	6/11/2023	Eni provided the shapefiles of the EMBA and Operational Area asked for by the AAPA on the 14/07/2023.	-	
		Email	Incoming	6/11/2023	AAPA confirmed that the shapefiles were received.	-	
		Email	Outgoing	13/11/2023	Eni replied to email from the 24/07/2023 thanking AAPA for their advice and informed them that Eni participates in the APPEA Oil Spill Working Group and will monitor the process of culturally sensitive spill protection closely.	-	
Department of Environment, Parks and Water Security (DEPWS) (NT) Pollution NT	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult DEPWS since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DEPWS to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DEPWS to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	25/07/2023	Initial outgoing consultation email to relevant persons was resent to pollution NT email address.	-	
		Email	Outgoing	6/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Outgoing	7/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person to pollution NT email address.	-	
		Email	Outgoing	14/11/2023	Eni noted that the guidelines set by the Nt government have been viewed and that Eni will contact the NTEPA in the event of a hydrocarbon spill.	-	
		Email	Outgoing	20/11/2023	Follow up email on previous consultation (06/09/2023). Noted that no response had been received. Were requested to respond by Thursday 30 November should they view themselves a Relevant Person.	-	
		Phone Call	Outgoing	20/11/2023	Phone call to (08) 8999 5511 answered and responded that they will check with their environment team and see if they have provided a response on behalf of the department.	-	
		Email	Outgoing	20/03/2024	Initial outgoing consultation email to relevant persons was recirculated. Noted that no response had been received.	-	
		Email	Incoming	21/03/2024	Email forwarded internally within DEPWS	-	
Email	Incoming	21/03/2024	Email forwarded internally within DEPWS including attachments	-			

		Email	Incoming	21/03/2024	DEPWS representative stated they had responded to this email in July 2023 and received feedback shortly after. Concerns were as follows: <ul style="list-style-type: none"> Whether there was additional information relating to impacts and risk mitigation relevant to NT jurisdiction. Whether the works would result in changes / amendments to the Environment Protection Licence. Eni confirms that no amendments to the licence were foreseen. DEPWS have requested to maintain a watching brief over offshore activities that are connected to regulated onshore activities.	Y	
		Email	Outgoing	12/04/2024	Eni informed DEPWS that potential impacts to NT would only occur as a result of an unplanned hydrocarbon spill. As per NOPSEMA guidance the EPs include stochastic spill modelling for worst-case scenarios to inform the spill risk assessments which showed a maximum of 46 cubic meters of hydrocarbon accumulation on the NT coastline in the event of a vessel collision at the Blackpoint single point mooring. Eni further informed DEPWS that spill response arrangements can be found in the Blacktip Oil Pollution Emergency Plan (OPEP), including the jurisdictional and notification requirements to relevant NT authorities.	-	
		Email	Outgoing	16/06/2024	Eni requests confirmation as soon as possible of the reponse arrangements/responsibilities of DEPWS (NT) in the event of a spill reaching NT waters.	-	
		Email	Incoming	17/04/2024	DEPWS representative apologises for late response and informs Eni that their response will be complete by the end of the week.	-	
		Email	Outgoing	17/04/2024	Eni thanks representative for response and requests response by 18/04 or 19/04 2024.	-	
		Email	Incoming	18/04/2024	Representative provides Eni will comments on the document in an attachment and has additionally included the latest OSCP.	-	
		Email	Outgoing	18/04/2024	Eni requests confirmation that the the NT Government is planning to utilise the Northern Territory Oiled Wildlife Response Plan (AMOSOC 2019) as the basis for their determination of protection priorities and shoreline response planning.	-	
		Email	Incoming	18/04/2024	Representative confirms the use of the Northern Territory Oiled Wildlife Response Plan and informed Eni that they are also in the process of updating the database of high value ecological areas, however that it will take time.	-	
		Email	Outgoing	18/04/2024	Eni thanks representative for clarifying and states that they look forward to seeing any updates to mapping of ecological areas.	-	
Northern Territory Regional Harbourmaster, part of the Department of Infrastructure, Planning and Logistics (DIPL) (NT)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult DIPL since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DIPL to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DIPL to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Incoming	6/09/2023	Advised that DIPL representative out of office and to direct all queries to a separate representative.	-	
		Email	Outgoing	14/11/2023	Initial outgoing consultation email sent to separate DIPL representative.	-	
		Email	Outgoing	20/03/2024	Initial outgoing consultation email to relevant persons was recirculated. Noted that no response had been received.	-	
Department of Industry Tourism and Trade (DITT) (NT)	Group 2	Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	Eni has been seeking to consult DITT since it issued information regarding this EP in July 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DITT to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DITT to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Incoming	14/07/2023	Confirmation of email being received and DITT will attend to it as soon as possible.	-	
		Email	Outgoing	6/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Incoming	6/09/2023	Confirmation of email being received and DITT will attend to it as soon as possible.	-	
		Email	Incoming	7/09/2023	DITT representative responded stated that they will review and provide feedback if necessary.	-	
		Email	Incoming	8/09/2023	DITT recognise that as the operational area is contained wholly within WA waters, there will be no NT commercial fisheries operating in the area. Concern regarding the stock structure of many commercially and recreationally important fish species is expressed as it is not well understood. Therefore any potential impact on aquatic life in the OA as a result of this work may have negative impacts on fish stocks across the NT or shared stocks that straddle the WA border. NT fisheries are comfortable with the EP and proposed management measures provided. However, where possible, work undertaken does not occur within the warmer months which coincide with fish spawning. NT fisheries suggest that significant work should be conducted after the wet season ends i.e. from March/April onwards. Conducting the work from September to March could also lead to negative impacts on fish stocks. In regards to consultation with NT commercial fisheries that operate within the EMBA and could be potentially impacted by any fuel spill, the Northern Territory Seafood Council would be the appropriate body to contact on this matter.	Y	
		Email	Outgoing	14/11/2023	Follow up email sent by Eni requesting feedback from DITT if deemed necessary	-	
		Email	Outgoing	15/03/2024	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Sent directly to NT fisheries email in attempt to broaden consultation efforts.	-	
		Email	Incoming	15/03/2024	Automatic response from NT Fisheries confirming that email was received.	-	
		Email	Outgoing	18/03/2024	Followed up with NT Fisheries and requested that feedback was provided on the proposed activities.	-	
		Phone Call	Outgoing	18/03/2024	Eni called NT Fisheries to follow up on email. Representative confirmed that email was received and forwarded to relevant individuals. Representative suggests waiting for a response.	-	
		Email	Outgoing	20/03/2024	Initial outgoing consultation email to DITT was recirculated. Noted that no response had been received.	-	

		Email	Outgoing	10/04/2024	Eni acknowledge the request that where possible work is not undertaken in the warmer months of the year. During EP development process Eni investigated options to avoid activities during sensitive periods, however considering the nature of the proposed activities it is not possible to limit work to specific periods of the year as drilling activities are subject to vessel and MODU availability. Eni note that currently drilling is not planned in the months mentioned. Eni references the range of controls and mitigation measures within the EP which manage the risk to the fishing industry to ALARP and acceptable levels. Adverse impacts to the fish stocks across the NT are not anticipated from planned activities, however in the event of an unplanned spill it is recognised that fish stocks may be adversely impacted.	-	
Northern Territory Environment Protection Authority (NTEPA)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult NTEPA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow NTEPA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for NTEPA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	14/07/2023	Correspondence that the email was received and referred for consideration by the Environment Division of the Department of Environment, Parks and Water Security, acting on behalf of the NT EPA.	-	
		Email	Incoming	18/07/2023	Relevant persons notes that the stakeholder engagement e-mail has been received and communicated across Environmental Operations. Further information on potential impacts to areas within their jurisdiction is requested. Also queries if there are any expected changes in licensed activity.	Y	
		Email	Outgoing	13/11/2023	Eni informed NTEPA that potential impacts to NT would only occur as a result of an unplanned hydrocarbon spill. As per NOPSEMA guidance the EPs include stochastic spill modelling for worst-case scenarios to inform the spill risk assessments which showed a maximum of 46 cubic meters of hydrocarbon accumulation on the NT coastline in the event of a vessel collision at the Blackpoint SPM. Eni further informed NTEPA that spill response arrangements can be found in the Blacktip Oil Pollution Emergency Plan (OPEP), including the jurisdictional and notification requirements to relevant NT authorities.	-	
		Email	Outgoing	23/11/2023	Follow up email from previous consultation, requesting NTEPA to respond with any concerns regarding the approach.	-	
		Email	Incoming	23/11/2023	NTEPA reports no queries, thanks Eni for answering earlier questions.	-	
Northern Territory Gas Taskforce (NT)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Northern Territory Gas Taskforce (NT) since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Northern Territory Gas Taskforce (NT) to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Northern Territory Gas Taskforce (NT) to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Follow up email on previous consultation (14/09/2023). Noted that no response had been received. Were requested to respond by Thursday 30 November should they view themselves a Relevant Person.	-	
		Email	Incoming	21/11/2023	The Northern Territory Gas Taskforce acknowledged the update and information and state they have no issues or concerns at present.	-	
Department of Biodiversity, Conservation and Attractions (DBCA) (WA)	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult DBCA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DBCA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DBCA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	28/07/2023	DBCA identifies that in the case of a hydrocarbon release, as a result of Eni's operations, ecologically important areas such as marine parks and nature reserves have the potential to be affected. DBCA requests that baseline studies of these ecologically important areas are conducted, including abundance and distribution data for benthic habitat and marine fauna species in the area are conducted. Where baseline information is unavailable suitable sources/methods to obtain information should be identified to ensure values are identified, monitored and remediated. Suggests that a before-after control-impact framework is used in planning and evaluating management planning. DBCA further recommend following the DCCEEW's National Light Pollution Guidelines for Wildlife as a best-practice industry standard for managing potential impacts of light pollution on marine fauna. DBCA request that in the event of a hydrocarbon release the Kimberley regional office is notified as soon as practicable (08) 9195 5500.	Y	
		Email	Outgoing	6/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Incoming	6/09/2023	Automated response thanking Eni for the email.	-	
		Email	Incoming	6/09/2023	DBCA informs Eni that they had responded to previous emails on the 28/07/2023.	-	
		Email	Outgoing	13/11/2023	Eni provided response to the email from 28/7/2023 and confirmed that the Adele Island Nature Park Reserve and North Kimberley Marine Park are located within the EMBA. Hydrocarbon spill modelling for Blacktip operations was conducted and impacts from a spill risk, including those to ecologically important areas, were assessed within the EP. Eni confirms that National Light Pollution Guidelines for Wildlife have been used to inform the impact assessment within the EP. Further confirmation that the Blacktip Operational and Scientific Monitoring Plan provides information on the monitoring of relevant receptors in the event of a hydrocarbon spill. The plan includes the identification of appropriate survey data from the region and appropriate (e.g. lacking existing baseline) the use of a Before-After, Control-Impact framework. Eni note the DBCA's request to have the Kimberley regional office notified as soon as practicable at (08) 9195 5500 in the event of a hydrocarbon spill and have updated the OPEP accordingly	Y	
		Email	Outgoing	22/11/2023	Follow up email from previous consultation, requesting the DBCA to respond with any concerns regarding the approach. Noted that no response had been received.	-	
Email	Outgoing	20/03/2024	Follow up email from previous consultation, requesting the DBCA to respond with any concerns regarding the approach. Noted that no response had been received.	-			

		Email	Incoming	21/03/2024	DBCA acknowledges response provided by Eni to previous queries regarding ecologically important areas within the EMBA, environmental monitoring, emergency response arrangements and incorporation of the National Light Pollution Guideline into the impact assessment. DBCA further acknowledges that Eni have confirmed notification to the Kimberly office will occur in the event of a hydrocarbon spill however note that the notification is limited to where there are imminent or physical impacts to wildlife within WA. DBCA request that notification to the Kimberley regional office is provided as soon as practicable in the event of a hydrocarbon spill on all departmental interests such as impacts to wildlife and reserves managed under the <i>Conservation and Land Management Act 1984</i> within WA. DCBA further informs Eni that the <i>Wildlife Conservation Act 1950</i> referred to in the EP and the National Light Pollution Guidelines for Wildlife have both been replaced by the <i>Biodiversity and Conservation Act 2016</i> and National Light Pollution Guidelines for Wildlife (2023).	-	
		Email	Outgoing	26/03/2024	Eni acknowledge DBCA's feedback and commit to updating notification requirements for the DBCA's Kimberley regional office as soon as practicable in the event of a hydrocarbon spill that may result in imminent or actual to impacts on all departmental interests, which includes wildlife and reserves managed under the <i>Conservation and Land Management Act 1984</i> within WA. Replacing the <i>Wildlife Conservation Act 1950</i> with the <i>Biodiversity Conservation Act 2016</i> and including an assessment of light impacts informed by the National Light Pollution Guidelines for Wildlife 2023.	-	
		Email	Incoming	28/03/2024	DBCA acknowledges consideration from Eni on feedback provided. Confirms that contact for the Kimberly regional office is: (08) 9195 5500 (preferable) however contact may be made by email at broome@dbca.wa.gov.au	-	
Department of Mines, Industry Regulation and Safety (DMIRS) (WA)	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult DMIRS since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DMIRS to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DMIRS to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Follow up email on previous consultation (06/09/2023). Noted that no response had been received. Were requested to respond by Thursday 30 November should they view themselves a Relevant Person.	-	
		Phone Call	Outgoing	20/11/2023	Phone call from Eni to DMIR's in an attempt to elicit a response regarding consultation. DMIRS representative stated that a relevant representative would contact Eni if necessary.	-	
		Email	Outgoing	20/03/2024	Initial outgoing consultation email to relevant persons was recirculated. Noted that no response had been received.	-	
Department of Transport (DOT) (WA)	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult DOT since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DOT to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DOT to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	14/07/2023	Automated emailing indicating that initial emails had been received.	-	
		Email	Incoming	21/07/2023	DOT state if there is a risk of a spill impacting state waters as a result of the proposed activities, to please consult the DOT as outlined in the DOT Petroleum Industry Guidance Note - Marine Oil Pollution: Response and Consultation Arrangements (July 2020)	-	
		Email	Outgoing	14/11/2023	Eni thanked the DOT for the information provided in their email and informed them that the consultation requirements stated in the Department of Transport Offshore Petroleum Industry Guidance Note will be acted upon.	-	
		Email	Incoming	14/11/2023	Automated emailing indicating that initial emails had been received.	-	
		Email	Outgoing	21/03/2024	Eni provided DOT with the highlighted Blacktip OPEP and two consultation documents prepared to meet requirements of the DOT Petroleum Industry Guidance Note - Marine Oil Pollution: Response and Consultation Arrangements (July 2020); for DOT's review.	-	
		Email	Outgoing	2/04/2024	Eni queries if the description of the response arrangement of the DOT as referenced in the OPEP is correct.	-	
		Email	Incoming	5/04/2024	DOT query the reason for submission of the OPEP as it is not clear whether Eni would like them to review it which DOT note can take up to 6 weeks.	-	
		Email	Outgoing	12/04/2024	Eni confirms that the OPEP was supplied to ensure alignment with DOT. Eni clarifies that the text highlighted in the email (21/03/2024) was to assist with ease of review.	-	
Department of Primary Industries and Regional Development (DPIRD) (WA)	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult DPIRD since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DPIRD to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DPIRD to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	18/07/2023	DPIRD notes the description of the activity and requirement of a 500 m safety exclusion zone which may impede the operation of commercial fishers in the area. Consultation with the Western Australian Fishing Industry Council and the following commercial fisheries was suggested: Kimberley crab managed fishery - Kimberley gillnet and Barramundi fisher - Mackerel managed fishery -Marine aquarium fishery - Specimen shell - Northern Demersal Scale Fishery - Pearl oyster fishery. DPIRD stated that after review of the Environmental Plan they have no additional comments to make at this stage.	Y	
		Email	Outgoing	15/04/2024	Eni confirms the requirement for a 500 m exclusion zone during the proposed activities and inform DPIRD of the locations where a 500 m exclusion zone will occur. Eni further confirm that where exclusions zone occur it will impede access for commercial fisheries, however given to low level of commercial fishing in the vicinity of the activity and the small area of exclusion relative to fishing licence areas any impact is considered negligible. Eni note that the new well will be within the already existing Blacktip wellhead platform exclusion zone which has been in place since 2009. Eni informs DPIRD that WAFIC has been consulted and where it cannot be established that a peak body represents individual license holders a letter has been sent via mail.	-	

Department of Planning, Lands & Heritage (DPLH) (WA)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult DPLH since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow DPLH to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for DPLH to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	14/07/2023	Automated emailing indicating that initial emails had been received.	-	
		Email	Incoming	19/07/2023	DPLH stated that as the proposal is outside State waters, the Land Management Division of DPLH has no comment.	-	
Aboriginal and Torres Strait Islander Community/First Nation Community							
National							
Northern Australian Indigenous Land & Sea Management Alliance (NAILSMA)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult NAILSMA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow NAILSMA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for NAILSMA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Follow up email on previous consultation (14/09/2023). Noted that no response had been received. Were requested to respond by Thursday 30 November should they view themselves a Relevant Person.	-	
		Phone Call	Outgoing	20/11/2023	Forwarded email to relative manager and stated they will respond if they see fit.	-	
		Email	Outgoing	20/03/2023	Initial outgoing consultation email to relevant persons was recirculated. Noted that no response had been received.	-	
		Email	Outgoing	25/03/2024	Email requesting for response by 28 March 2028 should they view themselves a Relevant Person.- This email was recalled due to typo noted.	-	
Northern Territory							
Northern Land Council (NLC)	Group 2	Meeting	Outgoing	14/06/2023	Eni introduce themselves and present a summary of Blacktip activities and the Verus project. Majority of interest from meeting was surrounding the Verus project. Eni requested assistance from NLC to organise consultation with Traditional Owners. NLC indicated its willingness to support but stated that it will depend on resources. Eni suggested to follow up with Email to NLC to try to coordinate for consultation.	-	Eni has been seeking to consult NLC since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow NLC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for NLC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/06/2023	Post in-person meeting Eni provided NLC with a copy of the slide pack presented.	-	
		Email	Outgoing	21/06/2023	Email correspondence sent to NLC to complete action item identified from meeting with NLC 14/06/2024. Eni seek guidance from NLC on best approach to consult with Traditional Owners, NGOs or local communities might be affected by Eni's activity.	-	
		Email	Outgoing	7/07/2023	Follow up on email from previous consultation.	-	
		Email	Incoming	12/07/2023	NLC response "We are in process of preparing a response to your email dated 21 June 2023 and will forward the same at the earliest. "	-	
		Email	Outgoing	14/07/2023	Eni emailed NLC, as referred to seek further comment on the Blacktip project, including consultation material.	-	
		Email	Incoming	17/07/2023	NLC response to Eni, "the NLC is still considering its response to the Tiwi Islands Case; in particular what role it will play following the decision. At this stage, we simply do not have the resources nor internal capacity to assist proponents with EP consultations for offshore projects. This may change following the ongoing discussions the sector is having with NOPSEMA and industry."	-	
		Email	Outgoing	11/03/2024	Eni emailed NLC, requesting further comment on the activities. Informing NLC Eni had directly visited the community in Wadeye. Information has been shared through the Regional Council for Wadeye. No consultation response has been received from NLC, however extension for comments extended to seek feedback from NLC.	-	
		Email	Incoming	11/03/2024	NLC response to Eni "At this stage, the NLC has no further feedback to provide in relation to this matter. I reiterate my comments from July 2023 that the NLC does not have the resources nor the internal capacity to assist proponents with environmental plan consultations for offshore projects."	-	
Tiwi Land Council (TLC) - representative of the following Traditional Owner Groups: Malawu Mantiyupwi Marrikawuyanga Munupi Yimpinari Wurankuwu Wulirankuwu	Group 3	Email	Outgoing	23/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult TLC since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow TLC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for TLC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	13/09/2023	Follow up email on previous consultation (23/06/2023). Noted that no response had been received. Were requested to respond by Friday 20th September should they view themselves a Relevant Person.	-	
		Email	Incoming	14/09/2023	TLC email to Eni. Informing of incoming letter from Principal Legal Advisor.	-	
		Email	Incoming	15/09/2023	TLC, Principal Legal Officer (PLO) indicated "email on 23 June 2023 was not received by any of the intended Tiwi Land Council recipients. The first time the Tiwi Land Council became aware of the 23 June 2023 email was on 13 September 2023. The Tiwi Land Council requires more time to consider the information regarding the Blacktip Project and to provide its submissions. Please confirm the attached documents are the full extent of the documents available for the purposes of the consultation."	-	
		Email	Outgoing	15/09/2023	Eni respond with activity flyer information and the offer for further information pack, in the form of a Teams call.	-	
		Email	Outgoing	22/09/2023	Eni shared maps and posters with TLC, as an action from previous meeting held with Eni's representatives.	-	
		Email	Incoming	25/09/2023	TLC response acknowledging receipt of maps.	-	
		Email	Outgoing	25/09/2023	Eni response to TLC for discussion for scheduled meeting.	-	
		Email	Incoming	25/09/2023	TLC response of availability for discussion.	-	
		Email	Outgoing	30/09/2023	Eni proposing time for in-person meeting, in Darwin.	-	
		Email	Incoming	1/10/2023	TLC proposed time for meeting with Eni on 03/10/2023.	-	
		In-person	Outgoing	2/10/2023	Eni presented a summary of activity in Blacktip and showed EMBA map to identify reason for Eni to engage with TLC and seek feedback. TLC expressed that Eni's activities are located far from Tiwi Islands and that they do not anticipate interruption from Eni's activities, however formal feedback from TLC is expected before end of October. TLC requested a zoomed-in map of the EMBA focusing on the Tiwi Islands area.	Y	
		Email	Outgoing	5/10/2023	Eni provided updated figure indicating the closest focal point to the Tiwi islands.	-	
		Email	Outgoing	20/11/2023	Eni seeking response to updated EMBA and information provided via email on the 6/10/2023 regarding Eni's Blacktip activities.	-	
		Text message	Outgoing	22/11/2023	Eni attempts to elicit a response from TLC regarding operations.	-	
Email	Outgoing	11/03/2024	Eni provided follow up email to TLC-PLO, seeking feedback from previous meeting.	-			

		Email	Outgoing	19/03/2024	Eni provided additional follow up email to TLC-PLO, seeking feedback from previous meeting.	-		
		Email	Incoming	19/03/2024	TLC-PLO indicated since 15 Sept 2023, they have not been involved in the matter and the matter is with colleagues.	-		
		Email	Outgoing	25/03/2024	Eni provided additional follow up email to TLC-PLO, seeking feedback from previous meeting.	-		
		Letter	Incoming	26/03/2024	TLC response to Eni, "Tiwi Land Council is pleased to note Eni Australia Limited (Eni) Blacktip Offshore Drilling Environment Plan June 2023 proposal, does not pose any potential risk to the following: - Tiwi's spiritual or cultural connection to the land and sea country; - Economic and social activities, such as fishing and hunting; or - Any functions or responsibilities of the Tiwi Land Council."	Y		
		Email	Outgoing	15/04/2024	Eni thank TLC for response and the identification of threatened marine species found within Tiwi waters. Eni confirms that these species have been considered within the impact assessments of the EP. Eni further confirm that a range of controls have been adopted in the EP which aim to mitigate a spill entering Tiwi waters including response measures located within the OPEP.	-		
Larrakia Nation Aboriginal Corporation	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Larrakia Nation Aboriginal Corporation since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Larrakia Nation Aboriginal Corporation to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Larrakia Nation Aboriginal Corporation to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.	
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-		
		Email	Outgoing	14/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-		
		Email	Outgoing	20/11/2023	Follow up email on previous consultation (13/09/2023). Noted that no response had been received. Were requested to respond by Thursday 30 November should they view themselves a Relevant Person.	-		
		Phone Call	Outgoing	13/03/2024	Spoke with reception who requested email was forwarded to the reception email address and stated they will forward CEO.	-		
		Email	Outgoing	13/03/2024	Eni resent through the consultation email and attached flyers to reception requesting support in forwarding on information to the CEO. Eni informs that the request for feedback has been extended.	-		
		Email	Outgoing	18/03/2024	Relevant person were requested to respond by 28 March 2028 should they view themselves a Relevant Person. This email was recalled due to typo identified.	-		
		Email	Outgoing	21/03/2024	Eni provided additional follow up email requesting feedback on the previous engagement regarding the proposed activity. Inform representative that the opportunity to provide feedback has been extended to 28 March 2024.	-		
		Email	Outgoing	25/03/2024	Eni provided additional follow up email requesting feedback on the previous engagement regarding the proposed activity. Inform representative that the opportunity to provide feedback has been extended to 28 March 2024.	-		
Thamarrurr Development Corporation (TDC), including the Thamarrurr Rangers representative of the following Traditional Owner Groups: Rak Wudipuli Rak Thinti Rak Perrederr Rak Nuthunthu Rak Nganthawudi Rak Namarluk Rak Nadirri Rak Merrepen Rak Kuy Rak Kungarlbarl Rak Kulingmirr Rak Kubiyrri Rak Kimmu Rak Angileni Yek Diminin Yek Maninh Yek Nangu Yek Ngudanimarn Yek Wunh Yek Yederr	Group 2	Email	Outgoing	17/05/2023	Initiating conversation with the CEO of the TDC. Briefly outlining the Blacktip project and asking for his assistance in meeting with Traditional Owner groups	-	Eni has been seeking to consult TDC since it issued information regarding this EP in May 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow TDC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for TDC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.	
		Email	Outgoing	18/07/2023	Eni reached out to TDC to requests support in engaging and facilitating conversations with stakeholders.	-		
		Email	Incoming	20/07/2023	TDC confirms there interest in assisting Eni with proposed consultation actions and suggests that information on the project is included within a newsletter published at the end of the month.	-		
		Email	Incoming	24/07/2023	TDC requests Eni to provide a one page notification regarding consultation with the community, otherwise they suggested they could develop something and get Eni's approval.	-		
		Email	Outgoing	24/07/2023	Eni request TDC to develop correspondence and report back for sign off.	-		
		Email	Incoming	24/07/2023	TDC develop draft to be included within newsletter once Eni confirms content. Organisation and assistance with the in-person meeting in August is discussed.	-		
		Email	Outgoing	25/07/2023	Eni provides updated draft to TDC and states that the finalised version will hopefully be with them Wednesday. Request regarding the addition of dates for in-person engagement to be included if TDC had any ideas of preferred days.	-		
		Email	Incoming	26/07/2023	TDC confirms email was received and stated they would try to get it into the newsletter. Further expressed concern regarding engagement scheduled for August/September as it is a busy month. Request if other options are available.	-		
		Email	Outgoing	28/07/2023	Eni updates TDC that newsletter text is under review and queries if a spot in the newsletter can be held.	-		
		Email	Outgoing	28/07/2023	Eni provides TDC with finalised community engagement form to be included within the newsletter.	-		
		Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-		
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-		
		Email	Incoming	14/07/2023	Automated response saying TDC CEO is not in the office currently	-		
		Email	Outgoing	7/08/2023	Eni contacting Thamarrurr Ranger Coordinator informing them of Eni's planned visit to Wadeye for community engagement.	-		
		In-person	Outgoing/ Incoming	30/08/2023	Eni met with council member who recommended engagement with particular community members and leaders, and provided names and contact details. Eni was recommended to refer to a PHD paper on the Wadeye published by Bill Ivory from Charles Darwin University. (Ivory, 2009). The council member stated that the Wadeye community is aware of the Yelcher Gas Plant, but is not negatively impacted by it.	Y		
		In-person	Outgoing/ Incoming	30/08/2023	Eni held a meeting with a member of the community council which served to introduce Eni, provide a brief summary of Eni's activities and request permission to hold a community engagement session on 31/08/2023.	-		
		In-person	Outgoing/ Incoming	31/08/2023	Community engagement session held with general Wadeye Community (inclusive of Traditional Owners) which served to ensure identified interested and relevant persons are informed about Eni's activities. No concerns regarding Eni's activities were expressed. Eni was informed that their story lines are not connected to the sea country and that story lines between clans inland are not connected to clans around the seashore. Confirmation was provided to Eni regarding accuracy of the map of culturally sacred areas.	Y		
		In-person	Outgoing/ Incoming	3/10/2023	Eni conducted a site visit to the Thamarrurr Ranger's Office with efforts to conduct direct engagement with Wadeye community members, particularly to identify clans with potential connection to sea country. No concerns regarding Eni's activities were expressed, however there was no opportunity to present the slide package.	-		
<p>Note: Consultation within the Wadeye Community was organised in coordination with TDC. Board member of TDC are representatives of 20 clans in Wadeye. Therefore included within the TDC consultation records.</p>								

In-person	Outgoing/ Incoming	3/10/2023	Eni participated in Wadeye Service Committee meeting with efforts to widen engagement. Meeting agenda included an overview of Eni's activities and request for feedback. No concerns regarding Eni's activities were expressed.	-
Phone Call	Outgoing	14/11/2023	Phone call with TDC Ranger Coordinator in respect to Traditional Owner: "Traditional Owner is currently uncontactable as he has no phone and is in Darwin for personal business. In conversations with him, he has voiced no concerns or queries with the works associated with the BTP 5YR EP or BTP Drilling EP. Traditional Owner has never had any concerns with Eni or its associated activities at Blacktip"	-
Phone Call	Outgoing	15/03/2023	Eni call representative and seek support in organising consultation with the Traditional Owner for YGP. Representative states that they will try and organise a meeting between Eni and the Traditional Owners and inform Eni on best dates.	-
Email	Outgoing	15/03/2024	Eni send follow-up email post call with TDC representative thanking them for the help with organising consultation between Eni and the Traditional Owners, particularly for YGP.	-
Email	Outgoing	18/03/2024	Initial outgoing consultation email to relevant persons was recirculated. Noted that no response had been received.	-
Phone Call	Outgoing	4/04/2024	Eni spoke with representative who confirmed that it is possible to hold meeting with TOs on Thursday, 18 April 2024 and suggested that Eni produce a one-page announcement to be placed at Wadeye town centre as a way to inform Traditional Owners.	-
Public Announcement	Outgoing	5/04/2024	Public Announcement published at Wadeye shop notice board.	-
Email	Incoming	5/04/2024	Representative sent screenshots of consultation notice that they attached to the supermarket notice board. Representative informed Eni that they had delivered additional printed copies with the intention to post in additional places.	-
Phone Call	Incoming	11/04/2024	Representative contacted Eni to inform them that a relative of the Traditional Owner had passed away and therefore they would be unable to hold the meeting planned for the 18th of April. Representative informed Eni that they will try their best to inform the CEO of TDC and schedule time for a video chat with Eni.	-
Email	Outgoing	11/04/2024	Eni thank representative for providing information on current situation and request updates on areas that are currently closed off.	-
Text message	Outgoing/ Incoming	12/04/2024	Eni thank representative for providing information and request their support for a meeting with the TDC leadership. Representative provide an alternative contact for the Deputy CEO of TDC and inform Eni of areas that will be closed off due to the current situation.	-
Text message	Outgoing/ Incoming	12/04/2024	Eni message Deputy CEO for TDC requesting a call which they agree to.	-
Phone Call	Outgoing	12/04/2024	Eni spoke with Deputy CEO and explain Eni's plan to visit Wadeye and request to meet TDC or would appreciate any form of communication through TDC. Deputy CEO informs Eni that they were not informed about Eni's previous efforts in contacting CEO and requests that Eni forward previous emails to them so they can notify the personal assistance of the CEO.	-
Email	Outgoing	12/04/2024	Eni forward previous correspondence to Deputy CEO.	-
Text message	Outgoing	12/04/2024	Eni message Deputy CEO to confirm that email was sent.	-
Text message	Incoming	13/04/2024	Deputy CEO confirms that email was received.	-
Text message	Outgoing	13/04/2024	Eni query if Deputy CEO needs all the past emails with TDC	-
Text message	Incoming	13/04/2024	Deputy CEO informs Eni that this is not necessary.	-
Text message	Outgoing	13/04/2024	Eni request meeting with the TDC board on 18th April, 2024.	-
Text message	Incoming	13/04/2024	Deputy CEO informed that the board meeting is scheduled for 23rd of April. Deputy CEO mentioned that Eni's previous email was addressed to some people that left had TDC and they will request IT to check why there was no automatic reply.	-
Text message	Outgoing	17/04/2024	Eni requests an update on the plan for the board meeting April 23, 2024.	-
Text message	Incoming	17/04/2024	Deputy CEO informed Eni that the PA to the CEO will be in contact with Eni.	-
Email	Incoming	18/04/2024	Representative informs Eni that the board meeting is scheduled for April 23rd, 2024 and included the time and location.	-
Email	Outgoing	18/04/2024	Eni thanks representative for the details and opportunity to attend the meeting. Eni informs that due to operational requirements the consultation for the EP's will close on April 19th, 2024, however that Eni is committed to ongoing engagement and will therefore be pleased to still attend the board meeting to discuss ongoing operations and developments in Northern Australia.	-
Email	Incoming	19/04/2024	Representative states that they are disappointed that they have missed the communication on the proposed new drilling and states that prior to March no correspondence was coming through as it was being sent to old email addresses. Relevant person queries if the EP consultation was raised previously when Eni was present at a monthly Wadeye Service Delivery Meeting.	-
Text message	Outgoing	19/04/2024	Eni thank Deputy CEO for the message and state they will wait for the call.	-
Text message	Incoming	19/04/2024	Deputy CEO states that since consultation will be closed the presence of Eni at the board meeting may not be useful. If Eni only intends to attend for relationship building then it can be rescheduled.	-
Phone Call	Outgoing	19/04/2024	Relevant persons states that they are disappointed to have missed the deadline for submission. Eni states that they attended the Monthly Service Meeting in Wadeye in October 2023 and included EP consultation as agenda item. Further, Eni has also emailed CEO of TDC since July 2023 and also organise for town visit in August 2023 in coordination with TDC Ranger. Relevant person responds that it sounds like Eni may have completed criteria for consultation and inform Eni that they will discuss agenda for the meeting to include Eni's presentation at the end of the agenda.	-

Bardi Jawi Niimidiman Aboriginal Corporation RNTBC	Group 3	Email	Outgoing	19/09/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email was specifically directed to Kimberley Coastal PBCs and stated that Eni Australia are in the process of scheduling local consultation dates.	-	Eni has been seeking to consult Bardi Jawi Niimidiman Aboriginal Corporation RNTBC since it issued information regarding this EP in September 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Bardi Jawi Niimidiman Aboriginal Corporation RNTBC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Bardi Jawi Niimidiman Aboriginal Corporation RNTBC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	19/09/2023	Initial outgoing consultation email to relevant persons was resent with update to feedback request date to 20th October 2023.	-	
		In-person	Outgoing/Incoming	31/10/2023	Meeting held with Ardyaloon (One Arm Point) community where representatives from the Ardyaloon Corporation were present. Main relevant discussion points included importance of tourism and fishing to Ardyaloon and a clarification on the number of days that it would take for an oil spill to reach Ardyaloon. Concern was also expressed regarding the influence of drilling on earthquakes. It was requested that protection of turtle breeding grounds on the islets that can be found near Ardyaloon was ensured in the case of an oil spill.	Y	
		In-person	Outgoing/Incoming	31/10/2023	Following advice provided in Ardyaloon community session Eni opportunistically went to the Bardi Jawi Rangers' office and presented prepared information regarding the Blacktip activities. Rangers suggested that Eni meet the Bardi Jawi Chairman and offered to forward information provided to other members and the Chairman. No comments were made regarding the proposed activity.	-	
		Email	Outgoing	4/11/2023	Eni followed up with persons from engagement meeting and provided a copy of the presentation given on the 31/10/2023.	-	
		Email	Outgoing	11/03/2024	Eni followed up regarding previous engagement and extended the opportunity to provide feedback on the activities. A copy of the presentation was included as an attachment.	-	
		Email	Outgoing	12/03/2024	Eni followed up regarding previous engagement and extended the opportunity to provide feedback on the activities. Attached relevant information. An alternative email was tried.	-	
		Phone Call	Outgoing	12/03/2024	Call to Bardi Jawi Niimidiman AC representative with no response. Voice message was left.	-	
		Phone Call	Outgoing	14/03/2024	Call to Bardi Jawi Niimidiman AC representative with no response. Voice message was left.	-	
		Phone Call	Outgoing	15/03/2024	Call to Bardi Jawi Niimidiman AC representative with no response. Voice message was left.	-	
		Email	Outgoing	18/03/2024	Eni followed up regarding previous engagement and requested feedback on the proposed activities.	-	
		Phone Call	Outgoing	18/03/2024	Call to Bardi Jawi Niimidiman AC representative with no response. Voice message was left.	-	
		Email	Incoming	19/03/2023	Eni followed up regarding previous engagement and requested feedback on the proposed activities.	-	
		Email	Outgoing	21/03/2024	Eni followed up regarding previous engagement and extended the opportunity to provide feedback on the activities. Attached relevant information. Response for feedback requested by 28 March 2024.	-	
		Email	Incoming	21/03/2024	Bardi Jawi Niimidiman AC representative responded stating they had been very busy and will respond within the next few days.	-	
		Email	Outgoing	21/03/2024	Eni acknowledged the response to email efforts and suggested holding an in-person meeting, or alternatively organising a video call.	-	
		Phone Call	Outgoing	25/03/2024	Bardi Jawi Niimidiman AC representative apologised for lack of response and informed Eni that they were in the process of organising a meeting of the TOs, however that availability is only in June/July. It was further expressed that if the activity goes ahead prior to this meeting Bardi Jawi PBC will object against the EP and request that it is stopped.	-	
		Email	Outgoing	25/03/2024	Eni followed up regarding previous engagement and requested feedback on the proposed activities.	-	
		Email	Incoming	25/03/2024	Bardi Jawi Niimidiman AC representative responded stating that they need more time to consider material and pull together a Bardi Jawi resourcing protocol for Eni. Representative also mentioned that consultation with them is not considered consultation with the native title holders and that compensation for resourcing will be required. Email included a letter attachment.	Y	
		Letter	Incoming	25/03/2024	Letter from the Bardi and Jawi Niimidiman Aboriginal Corporation RNTBC (BJNAC) chairperson detailing the process that BJNAC will go through to assess the information contained in the draft EP and the support they require from Eni to adequately do this.	-	
Email	Outgoing	10/04/2024	Eni acknowledge letter sent by Bardi Jawi Niimidiman AC representative on 25/03/2024 and respond with letter attached to the email.	-			
Letter	Outgoing	10/04/2024	Eni acknowledge the advice requested by BJNAC on 3 issues relating to the Blacktip activities, including the technical content, the assessment of the potential environmental implications and the assessment of the potential impact of the proposals on the cultural heritage and rights and interests under traditional law and custom as well as any rights and interests arising from contemporary sources of members and native title holders. Eni refers BJNAC to attached stakeholder consultation information packs for technical information and assessment of environmental impacts and risks. Eni suggests that BJNAC are in a position to make the assessment for potential impact of the proposed activity to cultural heritage and rights and interests. Eni considers that, consistent with the legislative requirements, BJNAC has been provided with reasonable opportunity for consultation and informs that the consultation timeline for the EP's will close on the 19th of April 2024. Eni states that they are committed to ongoing consultation through the duration of the EP activities. Where new information is received, Eni will apply its Management of Change process to determine if updates need to be made to the accepted EP.	-			
Balanggarra Aboriginal Corporation RNTBC	Group 2	Email	Outgoing	13/07/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Balanggarra Aboriginal Corporation RNTBC since it issued information regarding this EP in July 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Balanggarra Aboriginal Corporation RNTBC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Balanggarra Aboriginal Corporation RNTBC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is
		Phone Call	Outgoing	13/07/2023	Call to Balanggarra not answered.	-	
		Phone Call	Outgoing	14/07/2023	Call to Balanggarra with regards to Eni wishes to provide further information on Blacktip activity.	-	
		Phone Call	Outgoing	18/07/2023	Call to Balanggarra to confirm Balanggarra received the email and email will be sent to Balanggarra CEO.	-	
		Phone Call	Outgoing	19/07/2023	Call to Balanggarra received contact details of Balanggarra CEO.	-	
		Email	Outgoing	19/07/2023	Eni provided follow up of previous phone call.	-	

Email	Outgoing	19/09/2023	Eni resent initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email was specifically directed to Kimberley Coastal PBCs and stated that Eni Australia are in the process of scheduling local consultation dates.	-	complete.
Email	Outgoing	19/09/2023	Eni resent initial outgoing consultation email to relevant persons with update to feedback request date to 20th October 2023.	-	
Email	Incoming	20/10/2023	Provided name and contact of Balanggarra CEO.	-	
Email	Outgoing	20/10/2023	Eni informed Balanggarra CEO that Eni representatives are planning to travel to Kununurra for a discussion regarding the blacktip project. This discussion is intended to provide Balanggarra CEO and their team with information on Eni's process of drafting the Environment Plan future drilling activity as well as Eni's process to renew an Operational Environment Plan for the gas plant in Wadeye. Meeting date requested between the 24th and 26th of October 2023.	-	
Email	Outgoing	23/10/2023	Eni provided follow up email to Balanggarra CEO recirculating flyers and re-requesting a meeting between the 24th and 26th of October 2023 or an alternative virtual meeting.	-	
Email	Outgoing	26/10/2023	Eni emailed presentation slides for meeting scheduled for 27/10/2024.	-	
In-person	Outgoing/ Incoming	27/10/2023	Eni presented details of Blacktip activity. - Balanggarra CEO sought further clarification on impact of sediments to marine life. Eni responded that they will be using water based mud for drilling and sediments would only derived from sea bed disturbance at top layer. - CEO sought clarification on monitoring of sea shells and other elements around Blacktip and YGP. Eni indicated to the slide covering Eni's ongoing arrangement with the TDC which allows for the Thamarurr Rangers involvement in monitoring Sea country and areas around YGP, this includes water testing. - CEO suggested that Eni present monitoring data including data on mammals, seashells, etc. in future engagements with community. The data will provide evidence of Eni's monitoring of the sea country and land. It will also demonstrate that Eni's operation does not have negative impact to 'country'. - Eni provided brief summary of all the meetings Eni attended in Kununurra, including meeting with CEO of Shire, CEO of Chambers of Commerce and Port Manager at Wyndham. - CEO suggested for meeting with TOs or 'town hall' meeting with First Nation community by mid of November.	Y	
Email	Outgoing	28/10/2024	Eni provided copies of flyers and presentation slides to Balanggarra CEO. Eni stated their support for the 'town hall' suggested by the CEO and requested a cost estimate for transport and fees to support TOs to travel.	-	
Text message	Outgoing	22/11/2023	Eni contacted Balanggarra CEO in an effort to elicit a response regarding consultation.	-	
Email	Outgoing	11/03/2024	Eni provided additional follow up email to Balanggarra CEO, seeking feedback from previous email and meeting in Kununurra.	-	
Text message	Outgoing	12/03/2024	Eni contacted Balanggarra CEO in an effort to elicit a response regarding consultation.	-	
Email	Outgoing	13/03/2024	Eni provided additional follow up email to Balanggarra CEO, seeking feedback from previous email and meeting in Kununurra.	-	
Phone Call	Outgoing	13/03/2024	Eni contacted Balanggarra and advised person previously contacted and known as Balanggarra CEO is interim CEO. New contact details provided for Balanggarra CEO. Balanggarra board to discuss Blacktip activity end of March. Balanggarra queried if Eni have current agreements with Wadeye. Eni informed of involvement with Thamarurr Rangers. Balanggarra queried of status of communication between Eni and Mg Group. Eni informed of unsuccessful consultation efforts.	Y	
Email	Outgoing	13/03/2024	Eni provided additional follow up email to new Balanggarra Aboriginal Corporation Chairperson in an effort to elicit a response regarding consultation.	-	
Email	Incoming	14/03/2024	Interim Balanggarra CEO advised of newly appointed board members for Balanggarra Aboriginal Corporation.	-	
Phone Call	Outgoing	14/03/2024	Eni contacted Balanggarra and left a voice message to inform that Eni will be happy to hold a virtual meeting.	-	
Phone Call	Incoming	14/03/2024	Interim Balanggarra CEO called Eni to inform Eni's follow up email has been forwarded to the Balanggarra Aboriginal Corporation Chairperson. Balanggarra suggested to organise a virtual meeting between Eni and the Balanggarra Board.	-	
Email	Incoming	14/03/2024	Interim Balanggarra CEO forwarded Eni's follow up email to the Balanggarra Aboriginal Corporation Chairperson requesting to contact Eni and organise a presentation to the Balanggarra Board. Eni was copied into the forwarded email.	-	
Email	Outgoing	18/03/2024	Eni provided additional follow up email to new point of contact for Balanggarra, seeking response to Blacktip activity.	-	
Email	Outgoing	21/03/2024	Eni provided additional follow up email to Balanggarra. Recirculating Blacktip Flyers with change in response timeline from 15 January 2024 to 28 March 2024.	-	
Phone Call	Outgoing	25/03/2024	Eni contacted Balanggarra, Balanggarra advised a response to Eni's email will be provided. Eni informed that another reminder email will be sent.	-	
Email	Outgoing	25/03/2024	Eni provided additional follow up email to new Balanggarra Aboriginal Corporation Chairperson and interim Balanggarra CEO in an effort to elicit a response regarding consultation.	-	
Email	Incoming	27/03/2024	The new Balanggarra Aboriginal Corporation Chairperson responded stating the need to start the conversation between the BAC board and Eni, as he has not been engaged prior to his appointment.	-	
Phone Call	Outgoing	27/03/2024	Eni contacted Balanggarra Aboriginal Corporation Chairperson to introduce Eni and the Blacktip activity. Advised Eni have engaged with Balanggarra since October 2023. Eni requested a virtual meeting or in-person meeting in April. Eni informed Balanggarra that Eni will appreciate a call or email to plan for meeting. Balanggarra Aboriginal Corporation Chairperson indicated best opportunity to meet the Balanggarra Board will be in 2 months. Balanggarra Aboriginal Corporation Chairperson committed to organising a brief meeting with Eni in the following week from the call.	-	
Text message	Outgoing	28/03/2024	Eni messaged Chairperson requesting an introductory meeting.	-	
Text message	Outgoing	3/04/2024	Eni followed up message regarding setting up an introductory meeting.	-	

		Phone Call	Outgoing	5/04/2024	Eni called Chairperson to inform them of Eni's visit to Kununurra and requested a meeting. Chairperson confirmed that they would meet with Eni on Thursday April 11, 2024 at 10 am.	-	
		In-person	Outgoing/ Incoming	11/04/2024	Eni visited Kununurra and waited for Chairperson. Chairperson did not attend, however called later to apologise and explained reason for absence.	-	
		Text message	Outgoing	13/04/2024	Eni messaged Chairperson requesting a future introductory meeting.	-	
Kimberly Land Council (KLC)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult KLC since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow KLC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for KLC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	13/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Phone Call	Outgoing	13/07/2023	Phone was answered by reception who asked Eni to send all information to the Executive Assistant.	-	
		Phone Call	Outgoing	18/07/2023	Phone call to follow up on email (13/07/2023). Spoke to the Executive Assistant who confirmed they had received the email. Stated they would forward email to the CEO of KLC and Executive Members of KLC.	-	
		Email	Outgoing	19/09/2023	Outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email was specifically directed to Kimberley Coastal PBCs and stated that Eni Australia are in the process of scheduling local consultation dates.	-	
		Email	Outgoing	26/10/2023	Eni followed up regarding previous engagement and requested feedback on the proposed activities. Alternative contact was tried. Request for in-person meeting in Broome was proposed by Eni.	-	
		In-person	Outgoing/ Incoming	3/11/2023	Attempt to engage KLC was made by Eni, involving a discussion with the KLC manager for Land and Sea. No opportunity to go over slide package, however Eni's EMBA map was reviewed.	-	
		Email	Outgoing	11/03/2024	Eni followed up regarding previous engagement and requested feedback on the proposed activities. Previous attachments were re-sent.	-	
		Phone Call	Outgoing	12/03/2024	Phone was answered by reception who confirmed the email addresses used for previous correspondence were correct. Requested that Eni resend emails so they can forward to the Executive Assistant.	-	
		Email	Outgoing	12/03/2024	Eni followed up regarding email sent to the KLC 22/06/2023. Feedback request has been extended and flyers were attached to the correspondence.	-	
		Phone Call	Outgoing	14/03/2024	Phone was answered by reception who confirmed the email on 12/03/2024 was received and forwarded to the executive assistant, however Eni was informed the email would likely be forwarded to legal council at KLC. Reception requested that they were forwarded the email again.	-	
		Email	Outgoing	14/03/2024	Eni forwarded email initially sent to wrong email address. Content was regarding conversation with reception who committed to sending email once legal council returned from leave.	-	
		Email	Incoming	14/03/2024	KLC representative followed up post phone call to inform Eni that the legal secretary is on leave and will try to assist with the matter or hand it over to someone else.	-	
		Email	Outgoing	14/03/2024	Eni responded by acknowledging KLC's response.	-	
		Email	Incoming	14/03/2024	KLC representative informed Eni that they had forwarded the email to the legal officer.	-	
		Email	Outgoing	14/03/2024	Eni responded by acknowledging KLC's response.	-	
		Email	Incoming	15/03/2024	KLC representative informed Eni that they had been advised by the legal officer to inform the principal legal officer and wait for next steps.	-	
		Email	Outgoing	15/03/2024	Eni responded by acknowledging KLC's response.	-	
		Email	Outgoing	19/03/2024	Initial outgoing consultation email to KLC representative with direction to forward on to Nimanburr Aboriginal Corporation RNTBC was sent with extension to feedback request date. Flyers were attached.	-	
		Email	Incoming	20/03/2024	Courtesy email advising that contact person duties of KLC representative have been discharged as they have forwarded the email to the directors of the requested corporation. Notes that responses from the corporation may be delayed due to a lack of staff, office and access to emails/phones.	-	
		Email	Outgoing	22/03/2024	Eni acknowledges response and appreciation of help from the representative.	-	
		Email	Outgoing	25/03/2024	Eni followed up regarding previous engagement and requested feedback on the proposed activities by the 28th March 2024.	-	
		Email	Incoming	26/03/2024	Eni was cc'd in an email sent to the principal legal officer which included previous correspondence between Eni and KLC, including information on the proposed activities.	-	
Phone Call	Outgoing	3/04/2024	Eni called KLC representative to inform them on Eni's plans to visit Kununurra and Broome. Representative suggested Eni speak with the executive assistant for KLC.	-			
Phone Call	Outgoing	3/04/2024	Eni called KLC and left a voice message for executive assistant.	-			
Phone Call	Incoming	3/04/2024	Executive assistant returned call and Eni provided brief background on reason for the call which covered Eni's plan for visit to Kununurra & Broome between 10-18th April. It was requested that Eni send an email detailing requests and travel plans.	-			
Email	Outgoing	3/04/2024	Eni thank executive assistant for their time on the phone earlier and provide a brief overview of correspondence including the request of availability to meet with KLC members or PBC directors during a trip to Kununurra and Broome between 10-18th of April 2024.	-			
Email	Incoming	3/04/2024	KLC representative thanks Eni for discussions and informs that they will advise regarding the potential for Eni to meet during a visit to Kununurra and Broome between April 10-18th 2024.	-			
Phone Call	Outgoing	8/04/2024	Eni call executive assistant to follow up on the request for a introduction meeting (03/04/2024). Executive assistant inform Eni that CEO and board members will not be available to meet Eni on those dates.	-			
MG Corporation - representative of the following Traditional Owner Groups: Miriuwung and Gajerrong #1 (Native Title PBC) Aboriginal Corporation RNTBC	Group 2	Email	Outgoing	13/07/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult MG Corporation since it issued information regarding this EP in July 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow MG Corporation to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for MG Corporation to provide objections or claims in
		Email	Outgoing	14/09/2023	Follow up email on previous consultation. Noted that no response had been received. Were asked to please respond by Friday 22nd September should they view themselves a Relevant Stakeholder, with comments to add on this activity.	-	

Email	Outgoing	19/09/2023	Outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email was specifically directed to Kimberley Coastal PBCs and stated that Eni Australia are in the process of scheduling local consultation dates.	-
Email	Outgoing	19/09/2023	Updated email with the same information above.	-
In-person	Outgoing/ Incoming	25/10/2023	Eni visited MG Corporation's office for a meeting with MG Corporation representative. MG Corporation was aware of Eni's activities, however representative was not willing to listen to Eni's presentation and questioned Eni's attempt to meet without prior notification or appointment. MG questioned if Eni had informed KLC about this visit. Eni clarified that several communication attempts were made (email and phone), but no answer was received. As such, Eni took the initiative to visit MG Corporation directly. The MG representative stated that he is not authorised to discuss culturally sensitive information with Eni and suggested that Eni email the Chairman directly. Also, MG Corporation stated that they held similar discussions with another titleholder and preferred their approach of paying members to travel to Perth to attend this type of engagement.	-
Email	Outgoing	26/10/2023	Eni contacted the Chairmen in an effort to propose a meeting to inform about Eni's activities in Blacktip	-
Text message	Outgoing	30/10/2023	Eni sent a text message to the Chairmen to set up an in-person meeting with MG Corporation representative.	-
Text message	Incoming	30/10/2023	Response was received conforming the meeting for next Wednesday 3pm	-
Text message	Incoming	1/11/2023	Message declining the meeting due to other meeting going a bit longer	-
Text message	Outgoing	1/11/2023	Eni acknowledging the message and asked for another date	-
Text message	Outgoing	7/11/2023	Eni sent a further text message to set up another date to have an in-person meeting.	-
Email	Outgoing	12/03/2024	Eni followed up regarding email sent to the MG Corporation on 26/10/2023. Feedback request has been extended and flyers were attached to the correspondence.	-
Phone Call	Outgoing	12/03/2024	Call made to 9166 4801 (number registered in ORIC) and spoke to representative who provided a new email address to forward Eni's email. They informed that the MG Corp Chairman would not be available until Thursday and promised to reply to Eni's email with confirmation of email receipt.	-
Email	Outgoing	12/03/2024	Alternative email was sent to representative with the same information above (flyers included)	-
Email	Outgoing	12/03/2024	Email was sent to representative reinforcing the lack of response from MG Corporation and seeking feedback (flyers attached)	-
Phone Call	Outgoing	13/03/2024	Spoke to receptionist and left message for MG Corporation to seek response to Eni's email.	-
Phone Call	Outgoing	14/03/2024	Called MG Corporation but no response.	-
Phone Call	Outgoing	18/03/2024	Called Chairperson of MG Corporation.	-
Phone Call	Outgoing	19/03/2024	Called Chairperson of MG Corporation.	-
Phone Call	Outgoing	19/03/2024	Called MG Corporation office & spoke to reception, which informed that the Chairperson is on leave due to a funeral in his family. Eni requested to speak to previous representative but they were busy.	-
Text message	Incoming	19/03/2023	Eni received text message from Chairperson stating they were on leave and call Eni the following day.	-
Email	Outgoing	19/03/2024	Email was sent to representative reinforcing the lack of response from MG Corporation and seeking feedback (flyers attached)	-
Phone Call	Incoming	21/03/2024	Received call from MG Chairperson who informed Eni that they will be in Perth next week and propose for face to face meeting on Wed. 27 or Thur. 28 March in Perth. Chairperson will inform Eni on the best time for the meeting & he will be visiting Eni's office with another Director. Chairperson suggested possible follow up meeting with board via Teams. Eni is more than happy to accommodate both requests.	-
Email	Outgoing	22/03/2024	Email was sent to Chairperson thanking for the chat over the phone and asking for a meeting on the March 27th or 28th.	-
Phone Call	Outgoing	26/03/2024	Call was not answered. Left voice message	-
Text message	Incoming	26/03/2024	Text from Chairperson promised to call Eni on 27/03/2024	-
Phone Call	Incoming	27/03/2024	Chairperson called Eni to confirm that they will be available to meet Eni on the 18/03/2024. Meeting is only introductory.	-
In-Person	Outgoing	28/03/2024	Summary: MG Chairperson made it clear that the meeting was only intended as introduction with Eni and considering the fact that Eni have visited his country & made all the efforts to meet him, he made the effort to meet Eni in person while he is in Perth. Eni welcome the opportunity to meet MG Corp's board of directors as introduction. Eni briefly explained the EMBA as low impact & moderate zone, as well as operational area. Chairperson pointed out 'Iacrose island' as an area of interest for MG Corp & Balangarra and explained that Balangarra & MG Corp PBC shared jurisdiction of "Iacocrose Island" Eni explained that the spill is only in unlikely event and EMBA is a low exposure zone and the Operational Area is far from 'Iacrose island' Chairperson suggested Eni to contact DBCA to find out more information. Eni confirmed it has been contacting DBCA and received their feedback and that suggestions from DBCA are included in the EP.	Y

provided a reasonable period for MG Corporation to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.

		Email	Outgoing	5/04/2024	Eni provide follow up thanking Chairperson for the introductory meeting. Email included detail on the proposed activities and informed the Chairperson that the opportunity to provide feedback has been extended to 19th of April 2024. Eni further ensure that they remain happy to meet with the MG Board of Directors at a time convenient to the Board and understand that it may be some months before this meeting can take place. Any feedback provided past April 19th 2024 will be accepted and considered by Eni and if at any point new information is received, Eni will apply its Management of Change process to determine if updates need to be made to the accepted EP.	-	
Gogolanygor Aboriginal Corporation	Group 3	Email	Outgoing	19/09/2023	Outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email was specifically directed to Kimberley Coastal PBCs and stated that Eni Australia are in the process of scheduling local consultation dates.	-	Eni has been seeking to consult Gogolanygor Aboriginal Corporation since it issued information regarding this EP in September 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Gogolanygor Aboriginal Corporation to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Gogolanygor Aboriginal Corporation to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	19/09/2023	Initial outgoing consultation email to relevant persons was resent with update to feedback request date to 20th October 2023.	-	
		Email	Outgoing	11/03/2024	Eni followed up regarding previous engagement and requested feedback on the proposed activities. Previous attachments were resent.	-	
		Email	Outgoing	12/03/2024	Eni followed up regarding previous engagement and requested feedback on the proposed activities. Previous attachments were resent. Alternative email was tried.	-	
		Email	Outgoing	12/03/2024	Email was resent to correct email address.	-	
		Phone Call	Outgoing	12/03/2024	Attempted to call. No response.	-	
		Phone Call	Outgoing	12/03/2024	Called alternate phone number and briefly spoke to a representative who acknowledged that they had received the email from Eni regarding the proposed activities and verbally informed Eni that activities would not affect their PBC. Representative stated that they do not have any feedback or concern regarding the activities and said they would try to reply to Eni's email to confirm 'no issue & no feedback'.	-	
		Phone Call	Outgoing	13/03/2024	Brief phone call with representative. After reviewing the information provided concern was expressed regarding the extent of the EMBA and its potential impact to activities that Gogolanygor Corporation plans to undertake offshore. Including the corporation's business to have oyster farms, mud crabs, tripang. Eni informed that the EMBA is based on worst case scenario and reminded that there are layers of protection which Eni puts in place to prevent & mitigate such incident. Eni requested for an email to be sent to Eni detailing these concerns to allow for a more thorough response.	Y	
		Email	Outgoing	15/03/2024	Eni provided a follow up email to the representative requesting feedback on the previous discussion (13/03/2024) regarding the proposed activities.	-	
		Email	Outgoing	19/03/2024	Eni provided additional follow up email to representative requesting feedback on the previous discussions regarding the proposed activities.	-	
		Email	Outgoing	22/03/2024	Eni provided additional follow up email to representative requesting feedback on the previous discussions regarding the proposed activities.	-	
Email	Outgoing	25/03/2024	Eni provided additional follow up email to representative requesting feedback on the previous discussions regarding the proposed activities.	-			
Email	Incoming	25/03/2024	Automated out of office reply was received.	-			
Nyangu martka Karajarri Aboriginal Corporation	Group 3	Email	Outgoing	19/09/2023	Outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email was specifically directed to Kimberley Coastal PBCs and stated that Eni Australia are in the process of scheduling local consultation dates.	-	Eni has been seeking to consult Nyangu martka Karajarri Aboriginal Corporation since it issued information regarding this EP in September 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Nyangu martka Karajarri Aboriginal Corporation to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Nyangu martka Karajarri Aboriginal Corporation to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	19/09/2023	Initial outgoing consultation email to relevant persons was resent with update to feedback request date to 20th October 2023.	-	
		In-person	Outgoing/ Incoming	2/11/2023	Meeting was held in the Bidadanga community. Eni presented information via slide pack in an attempt to further relevant persons consultation. Concern was expressed regarding the impacts of an oil spill to the pearl industry, stated that there are several pearl farms which could be captured within the EMBA. Further, that within the EMBA there are Flatback turtle and salmon breeding grounds and that the area adjacent to Roebuck Bay, Cable Beach should also be considered as protected area as it is an important areas with extensive sea grass, dugong breeding and migration of whales. Copies of flyers were distributed at the end of the meeting.	Y	
		In-person	Outgoing/ Incoming	2/11/2023	Meeting was held in the Bidadanga community. Eni presented information via slide pack in an attempt to further relevant persons consultation. Concern was expressed regarding the impacts of fracking and mining to 'country'. Eni explained that the company is not involved with fracking. Questions on the information were asked however there were no clear views on the position of attendants on the activities proposed by Eni. Copies of flyers were distributed at the end of the meeting.	Y	
		Email	Outgoing	20/11/2023	Eni followed up with persons from engagement meeting and provided a copy of the presentation given on the 02/11/2023 and requested feedback.	-	
		Email	Outgoing	12/03/2024	Eni followed up regarding previous engagement and extended the opportunity to provide feedback on the activities. A copy of the activity flyers were included as an attachment.	-	
		Email	Outgoing	13/03/2024	Eni followed up regarding previous engagement and extended the opportunity to provide feedback on the activities. A copy of the activity flyers were included as an attachment.	-	
		Email	Outgoing	19/03/2024	Eni provided additional follow up email requesting feedback on the previous engagement regarding the proposed activity.	-	
		Email	Incoming	20/03/2024	KLC representative responded querying which corporation Eni is trying to reach as the correspondence was not directed to a particular corporation name.	-	
		Email	Outgoing	20/03/2024	Eni responded that the correspondence is intended to reach the Nyangu martka Karajarri Aboriginal Corporation.	-	
		Email	Incoming	20/03/2024	Courtesy email advising that contact person duties of KLC representative have been discharged as they have forwarded the email to the directors of the requested corporation. Notes that responses from the corporation may be delayed due to a lack of staff, office and access to emails/phones.	-	
Email	Incoming	21/03/2024	Email resent from KLC representative with the same content as described above (20/03/2024)	-			

Mayala Inninalang Aboriginal Corporation	Group 3	Email	Outgoing	19/09/2023	Outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email was specifically directed to Kimberley Coastal PBCs and stated that Eni Australia are in the process of scheduling local consultation dates.	-	Eni has been seeking to consult Mayala Inninalang Aboriginal Corporation since it issued information regarding this EP in September 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Mayala Inninalang Aboriginal Corporation to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Mayala Inninalang Aboriginal Corporation to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	19/09/2023	Initial outgoing consultation email to relevant persons was resent with update to feedback request date to 20th October 2023.	-	
		Email	Outgoing	11/03/2024	Eni followed up regarding previous efforts and inform that the opportunity to provide feedback on the proposed activities has been extended. Activity flyers were included as an attachment.	-	
		Email	Outgoing	12/03/2024	Eni followed up regarding previous efforts and inform that the opportunity to provide feedback on the proposed activities has been extended. Activity flyers were included as an attachment.	-	
		Phone Call	Outgoing	12/03/2024	Spoke with reception at KLC who informed Eni that email address used for PBCs is legalsecretary@klc.org.au	-	
		Email	Outgoing	13/03/2024	Consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email referenced direct attempt to contact Mayala Inninalang Aboriginal Corporation due to a lack of success going through KLC.	-	
		Email	Outgoing	18/03/2024	Eni followed up regarding previous efforts.	-	
		Email	Incoming	20/03/2024	Courtesy email advising that contact person duties of KLC representative have been discharged as they have forwarded the email to the directors of the requested corporation. Notes that responses from the corporation may be delayed due to a lack of staff, office and access to emails/phones.	-	
		Email	Outgoing	25/03/2024	Eni provided additional follow up email requesting feedback on the previous efforts regarding the proposed activity. Inform representative that the opportunity to provide feedback has been extended to 28 March 2024.	-	
		Email	Incoming	27/03/2024	Courtesy email advising that contact person duties of KLC representative have been discharged as they have forwarded the email to the directors of the requested corporation. Notes that responses from the corporation may be delayed due to a lack of staff, office and access to emails/phones.	-	
Nyul Nyul PBC Aboriginal Corporation	Group 3	Email	Outgoing	19/09/2023	Outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email was specifically directed to Kimberley Coastal PBCs and stated that Eni Australia are in the process of scheduling local consultation dates.	-	Eni has been seeking to consult Nyul Nyul PBC Aboriginal Corporation since it issued information regarding this EP in September 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Nyul Nyul PBC Aboriginal Corporation to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Nyul Nyul PBC Aboriginal Corporation to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	19/09/2023	Initial outgoing consultation email to relevant persons was resent with update to feedback request date to 20th October 2023.	-	
		In-person	Outgoing/ Incoming	31/10/2023	Meeting was held in the Beagle Bay community. Eni introduced themselves and presented information. Concerns from attendees were confidential and can be found in <i>Sensitive Information</i> . It was suggested that Eni attend the annual general meeting to provide the same presentation to all Board or Executive of the PBC. Copies of flyers were distributed at the end of the meeting.	Y	
		Email	Outgoing	18/03/2024	Eni followed up regarding previous engagement and extended the opportunity to provide feedback on the activities. A copy of the attendance record of the meeting on (31/10/2023) and the activity flyers were included as an attachment.	-	
		Phone Call	Outgoing	18/03/2024	Spoke to ORIC representative and informed them that Eni is seeking feedback from meeting held in Beagle Bay community (31/10/2023) regarding information that was shared on the proposed activities.	-	
		Text message	Outgoing	18/03/2024	Sent text message to ORIC representative informing them that an email was sent from Eni that requires attention.	-	
		Email	Outgoing	20/03/2024	Eni provided additional follow up email referencing voice message left with representative requesting feedback on the previous engagement regarding the proposed activity. Inform representative that the opportunity to provide feedback has been extended to 28 March 2024.	-	
		Email	Outgoing	25/03/2024	Eni provided additional follow up email referencing voice message left with representative requesting feedback on the previous engagement regarding the proposed activity. Activity flyers were included as an attachment.	-	
		Email	Incoming	25/03/2024	ORIC representative informed Eni that they would ensure information is presented to the board during the Nyul Nyul PBC meeting on the 1 and 2 of May 2024. Representative will be in contact with Eni if attendance is required.	-	
		Email	Outgoing	5/04/2024	Eni provide follow up email with detail on the proposed activities and inform the representative that the opportunity to provide feedback has been extended to 19th of April 2024. Eni further ensure that they remain happy to meet with the Nyul Nyul PBC Board of Directors at a time convenient to the Board and request they would like Eni to attend the 1 and 2 May Board meeting. Any feedback provided past April 19th 2024 will be accepted and considered by Eni and if at any point new information is received, Eni will apply its Management of Change process to determine if updates need to be made to the accepted EP.	-	
		Email	Incoming	5/04/2024	Representative queried the number of emails received and requested confirmation that they are all the same and only one is needed to be kept.	-	
		Email	Outgoing	5/04/2024	Eni confirm that the representative can delete duplicate emails and apologise for the technical error.	-	
		Email	Incoming	12/04/2024	On behalf of the contact person for Nyul Nyul PBC Aboriginal Corporation RNTBC the ORIC Representative invites Eni Australia to meet with the board at their next directors meeting in Broome on May 3rd to discuss correspondence and consultations. It is stated that the PBC will require a funding contribution for this meeting if Eni would like to attend.	-	
Yawuru Native Title Holders Aboriginal Corporation	Group 3	Email	Outgoing	19/09/2023	Outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email was specifically directed to Kimberley Coastal PBCs and stated that Eni Australia are in the process of scheduling local consultation dates.	-	Eni has been seeking to consult Yawuru Native Title Holders Aboriginal Corporation since it issued information regarding this EP in September 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Yawuru Native Title Holders Aboriginal Corporation to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Yawuru Native Title Holders Aboriginal Corporation to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	19/09/2023	Initial outgoing consultation email to relevant persons was resent with update to feedback request date to 20th October 2023.	-	
		Email	Outgoing	12/03/2024	Eni followed up regarding previous efforts and inform that the opportunity to provide feedback on the proposed activities has been extended. Activity flyers were included as an attachment.	-	
		Phone Call	Outgoing	12/03/2024	Attempted to call. No response.	-	
		Phone Call	Outgoing	13/03/2024	Spoke with reception who recommended an alternative email address for correspondence so that they are able to distribute the email chain to relevant people.	-	

		Email	Outgoing	13/03/2024	Eni followed up regarding previous efforts and inform that the opportunity to provide feedback on the proposed activities has been extended. Activity flyers were included as an attachment. Alternative email address was used.	-	
		Phone Call	Outgoing	14/03/2024	Reception confirmed that email had been received and forwarded to the relevant department. Recommended to wait until the department returns correspondence.	-	
		Phone Call	Outgoing	18/03/2024	Spoke with reception who requested the email chain be sent to them so that they are able to forward on to relevant departments.	-	
		Email	Outgoing	18/03/2024	Email sent to individuals email address acknowledging their assistance and requesting feedback from the relevant department.	-	
		Email	Outgoing	18/03/2024	Email resent to individual email address and alternative email address.	-	
		Email	Outgoing	25/03/2024	Eni provided additional follow up email requesting feedback on the previous efforts regarding the proposed activity. Inform representative that the opportunity to provide feedback has been extended to 28 March 2024.	-	
Wanjina-Wunggurr (Native Title) Aboriginal Corporation RNTBC	Group 2	Email	Outgoing	19/09/2023	Outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email was specifically directed to Kimberley Coastal PBCs and stated that Eni Australia are in the process of scheduling local consultation dates.	-	Eni has been seeking to consult Wanjina-Wunggurr (Native Title) Aboriginal Corporation RNTBC since it issued information regarding this EP in September 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Wanjina-Wunggurr (Native Title) Aboriginal Corporation RNTBC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Wanjina-Wunggurr (Native Title) Aboriginal Corporation RNTBC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	19/09/2023	Initial outgoing consultation email to relevant persons was resent with update to feedback request date to 20th October 2023.	-	
		Email	Outgoing	12/03/2024	Eni followed up regarding previous efforts and inform that the opportunity to provide feedback on the proposed activities has been extended. Activity flyers were included as an attachment.	-	
		Phone Call	Outgoing	18/03/2024	Requested to speak with representative of Wanjina-Wunggurr but was directed to KLC representative who suggested Eni continues to reach out to ORIC contact.	-	
		Email	Outgoing	18/03/2024	Eni followed up regarding previous efforts.	-	
		Email	Outgoing	25/03/2024	Eni provided additional follow up email requesting feedback on the previous efforts regarding the proposed activity. Inform representative that the opportunity to provide feedback has been extended to 28 March 2024.	-	
Warrwa People Aboriginal Corporation RNTBC	Group 3	Email	Outgoing	19/09/2023	Outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email was specifically directed to Kimberley Coastal PBCs and stated that Eni Australia are in the process of scheduling local consultation dates.	-	Eni has been seeking to consult Warrwa People Aboriginal Corporation RNTBC since it issued information regarding this EP in September 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Warrwa People Aboriginal Corporation RNTBC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Warrwa People Aboriginal Corporation RNTBC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	19/09/2023	Initial outgoing consultation email to relevant persons was resent with update to feedback request date to 20th October 2023.	-	
		Phone Call	Outgoing	12/03/2024	Attempted to call number registered in ORIC. Number not connected.	-	
		Email	Outgoing	12/03/2024	Eni followed up regarding previous efforts and inform that the opportunity to provide feedback on the proposed activities has been extended. Activity flyers were included as an attachment.	-	
		Phone Call	Outgoing	13/03/2024	Attempted to call registered number. Number not connected.	-	
		Phone Call	Outgoing	18/03/2024	Attempted to call number registered in ORIC. Number not connected.	-	
		Email	Outgoing	18/03/2024	Eni followed up regarding previous efforts.	-	
		Email	Outgoing	25/03/2024	Eni provided additional follow up email requesting feedback on the previous efforts regarding the proposed activity. Inform representative that the opportunity to provide feedback has been extended to 28 March 2024.	-	
Walalakoo Aboriginal Corporation RNTBC	Group 3	Email	Outgoing	19/09/2023	Outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets. Email was specifically directed to Kimberley Coastal PBCs and stated that Eni Australia are in the process of scheduling local consultation dates.	-	Eni has been seeking to consult Walalakoo Aboriginal Corporation RNTBC since it issued information regarding this EP in September 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Walalakoo Aboriginal Corporation RNTBC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Walalakoo Aboriginal Corporation RNTBC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	19/09/2023	Initial outgoing consultation email to relevant persons was resent with update to feedback request date to 20th October 2023.	-	
		Email	Outgoing	12/03/2024	Eni followed up regarding previous efforts and inform that the opportunity to provide feedback on the proposed activities has been extended. Activity flyers were included as an attachment.	-	
		Phone Call	Outgoing	12/03/2024	Attempted to call number registered in ORIC. Number not connected.	-	
		Email	Outgoing	18/03/2024	Eni followed up regarding previous efforts.	-	
		Email	Outgoing	25/03/2024	Eni provided additional follow up email requesting feedback on the previous efforts regarding the proposed activity. Inform representative that the opportunity to provide feedback has been extended to 28 March 2024.	-	
Businesses							
Amateur Fisherman's Association of the Northern Territory (AFANT)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheet.	-	Eni has been seeking to consult AFANT since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow AFANT to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for AFANT to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	13/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	13/07/2023	Automated reply stating the email is unattended 19/12/22 to 13/01/23	-	
		Email	Outgoing	4/08/2023	Resent initial outgoing consultation email. Eni noted no response had been received.	-	
		Phone Call	Outgoing	26/09/2023	Relevant person requested consultation email to be resent .	-	
		Email	Outgoing	26/09/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/11/2023	Follow up consultation invitation issued 26/09/23. Eni noted no response had been received. Were requested to respond by Thursday 30th November should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/03/2024	Recirculated initial outgoing consultation email to relevant persons and included initial outgoing consultation material. Eni noted no response had been received. Were requested to respond by Thursday 28th March 2024.	-	
Australian Maritime Oil Spill Centre (AMOSOC)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult AMOSOC since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow AMOSOC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for AMOSOC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on consultation initiation issued 22/06/2023. Eni noted that no response had been received.	-	
		Email	Incoming	26/09/2023	AMOSOC has no concerns regarding the proposed infield development well drilling plans. They ask to be kept informed as developments progress	Y	
Anglers Choice Fishing Safaris	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Anglers Choice Fishing Safaris since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	

		Email	Outgoing	6/09/2023	Follow up email on consultation initiation issued 22/06/2023. Eni noted that no response had been received.	-	sufficient information to allow Anglers Choice Fishing Safaris to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Anglers Choice Fishing Safaris to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Text message	Outgoing	26/09/2023	Eni representative sent text regarding email sent to persons organisation about the proposed activities – Blacktip project and requesting feedback on the email (6/9/2023)	-	
		Email	Outgoing	28/09/2023	Follow up email on consultation initiation issued 22/06/2023. Eni noted that no response had been received.	-	
		Phone Call	Outgoing	10/10/2023	Eni representative called Anglers Choice, stated they had no comments on the Blacktip activities but requested the email be resent to email with attention to Anglers Choice representative.	-	
		Email	Outgoing	10/10/2023	Email was resent following phone call with flyers attached.	-	
		Email	Outgoing	14/11/2023	Reply to previous correspondence asking them to reply if they consider themselves to be a relevant stakeholder.	-	
		Email	Outgoing	20/03/2024	Follow up email on the last consultation issued 14/11/2023. Eni asked for feedback until 28/03/2024	-	
		Email	Outgoing	25/03/2024	Recirculated initial outgoing consultation email to relevant persons. Eni noted no response had been received. Were requested to respond.	-	
Arafura Bluewater Charters	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Arafura Bluewater Charters since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Arafura Bluewater Charters to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Arafura Bluewater Charters to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on consultation initiation issued 14/07/2023. Eni noted that no response had been received.	-	
		Phone Call	Outgoing	10/10/2023	Eni called representative who stated Arafura Charters do not have activities around Eni's offshore activities. No concerned raised and Eni requested for reply to email sent in September. Representative stated they will try to find Eni's email and provide response.	-	
		Email	Outgoing	20/03/2024	Follow up email on the last consultation issued 14/11/2023. Eni asked for feedback until 28/03/2024	-	
		Email	Outgoing	25/03/2024	Recirculated initial outgoing consultation email to relevant persons. Eni noted no response had been received. Were requested to respond.	-	
Cannon Charters	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Cannon Charters since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Cannon Charters to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Cannon Charters to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on consultation initiation issued 22/06/2023. Eni asked for a response until 22/09 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up on correspondence from 06/09/2023	-	
		Phone Call	Outgoing	20/11/2023	No answer to phone call so Eni left a message including contact details.	-	
		Email	Outgoing	20/03/2024	Follow up email on the last consultation issued 14/11/2023. Eni asked for feedback until 28/03/2024	-	
Clearwater Fish / Clearwater Island Lodge	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Clearwater Fish / Clearwater Island Lodge since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Clearwater Fish / Clearwater Island Lodge to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Clearwater Fish / Clearwater Island Lodge to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on consultation initiation issued 22/06/2023. Eni asked for a response until 22/09 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up on correspondence from 06/09/2023. Asking feedback by 30/11/2023	-	
		Phone Call	Outgoing	20/11/2023	No answer to phone call so Eni left a message including contact details.	-	
		Email	Outgoing	20/03/2024	Follow up email on the last consultation issued 14/11/2023. ENI asked for feedback until 28/03/2024	-	
		Email	Outgoing	25/03/2024	Recirculated initial outgoing consultation email to relevant persons. Eni noted no response had been received. Were requested to respond.	-	
Darwin Harbour Fishing Charters	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Darwin Harbour Fishing Charters since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Darwin Harbour Fishing Charters to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Darwin Harbour Fishing Charters to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 22/09 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up on correspondence from 06/09/2023. Asking feedback by 30/11/2023	-	
		Phone Call	Outgoing	20/11/2023	Phone call follow up. No need to be consulted further. Stated any permission is above his organisation.	-	
		Email	Outgoing	19/03/2024	Follow up email with flyers on the last consultation issued 20/11/2023.	-	
		Email	Outgoing	20/03/2024	Follow up email with flyers and request reply by the 28/03/2024.	-	
		Email	Outgoing	25/03/2024	Recirculated initial outgoing consultation email to relevant persons. Eni noted no response had been received. Were requested to respond.	-	
Darwin Port	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Darwin Port since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Darwin Port to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Darwin Port to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 22/09 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up on correspondence from 06/09/2023. Asking feedback by 30/11/2023	-	
		Phone Call	Outgoing	20/11/2023	No answer to phone call so Eni left a message including contact details.	-	
		Email	Outgoing	20/03/2024	Follow up email with flyers and asking for reply by the 28/03/2024.	-	
		Email	Outgoing	25/03/2024	Recirculated initial outgoing consultation email to relevant persons. Eni noted no response had been received. Were requested to respond by 28th March 2024.	-	
Dundee Beach Fishing Charters	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Dundee Beach Fishing Charters since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Dundee Beach Fishing Charters to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Dundee Beach Fishing Charters to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	13/09/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 22/09 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up on correspondence from 06/09/2023. Asking feedback by 30/11/2023	-	

		Phone Call	Outgoing	20/11/2023	Representative stated they had sent emails through to the head of the company and they had most likely put them in the "too hard basket" as the head of the company tended to be disinterested about "this sort of thing". Stated that he will respond if he feels necessary or has any concerns. Stated that it is unlikely he will.	-	Fishing Charters to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	20/03/2024	Follow up email with flyers and asking for reply by the 28/03/2024.	-	
Equinox Fishing Charters	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Equinox Fishing Charters since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Equinox Fishing Charters to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Equinox Fishing Charters to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/09/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 22/09 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up on correspondence from 14/09/2023. Asking feedback by 30/11/2023	-	
		Phone Call	Outgoing	20/11/2023	Representative from Equinox stated that they had a brief look and did not understand the purpose of the emails. Stated they will have another look and reply via email if they have any concerns, or wish to be updated.	-	
		Email	Outgoing	19/03/2024	Follow up email requesting feedback from Equinox.	-	
		Email	Outgoing	20/03/2024	Follow up email with flyers requesting reply by the 28/03/2024.	-	
Fish Darwin	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Fish Darwin since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Fish Darwin to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Fish Darwin to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/09/2023	Follow up consultation invitation issued 14/07/23. Correspondence included a summary of the Blacktip facilities and the petroleum area. Correspondence included attachment of the 2023 activity factsheet.	-	
		Phone Call	Outgoing	20/11/2023	Phone call follow up with no answer from relevant persons nor an option to leave a message.	-	
		Email	Outgoing	20/11/2023	Follow up consultation invitation issued 14/07/23. Correspondence included a summary of the Blacktip facilities and the petroleum area. Correspondence included attachment of the 2023 activity factsheet.	-	
		Email	Outgoing	20/03/2024	Recirculated initial outgoing consultation email to relevant persons and included initial outgoing consultation material. Eni noted no response had been received. Were requested to respond by Thursday 28th March 2024.	-	
Marine Tourism Association of WA (MTWA)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult MTWA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow MTWA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for MTWA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/09/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 22/09 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up on correspondence from 06/09/2023. Asking feedback by 30/11/2023	-	
		Phone Call	Outgoing	20/11/2023	No answer to phone call so Eni left a message including contact details.	-	
		Phone Call	Outgoing	21/11/2023	Representative can't comment but recommends Eni contact Recfish West and DPIRD.	-	
		Email	Outgoing	20/03/2024	Follow up email with flyers and asking for reply by the 28/03/2024	-	
Melville Lodge	Group 3	Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	Eni has been seeking to consult Melville Lodge since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Melville Lodge to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Melville Lodge to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	13/09/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 22/09 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	10/10/2023	Follow up email with flyers and asking for reply by the 28/03/2024	-	
		Email	Outgoing	14/11/2023	Follow up on correspondence from 10/10/2023. Asking feedback by 30/11/2023	-	
		Email	Outgoing	20/11/2023	Reply to previous correspondence asking them to reply if they consider themselves to be a relevant stakeholder.	-	
		Email	Outgoing	20/03/2024	Follow up email with flyers and requesting feedback.	-	
		Email	Outgoing	20/03/2024	Follow up email with flyers and requesting feedback.	-	
Monsoon Aquatics	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Monsoon Aquatics since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Monsoon Aquatics to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Monsoon Aquatics to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/09/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 22/09 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Incoming	14/09/2023	Monsoon Aquatics acknowledge emails and have no concerns.	-	
Northern Territory Guided Fishing Industry Association (NTGFIA)	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult NTGFIA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow NTGFIA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for NTGFIA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/09/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 20/09 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up on correspondence from 14/09/2023. Asking feedback by 30/11/2023	-	
		Phone Call	Outgoing	20/11/2023	Representative stated they will look at consultation and respond if they see fit.	-	
		Email	Outgoing	20/03/2024	Follow up email with flyers and asking for a response by 28/03/2024.	-	
Offshore Boat Fish Charters	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Offshore Boat Fish Charters since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Offshore Boat Fish Charters to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Offshore Boat Fish Charters to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	13/09/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 20/09 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up on correspondence from 13/09/2023. Asking feedback by 30/11/2023	-	
		Phone Call	Outgoing	20/11/2023	No answer to phone call so Eni left a message including contact details.	-	


		Email	Outgoing	20/03/2024	Follow up email with flyers and asking for a response by 28/03/2024.	-	
Oil Spill Response Limited (OSRL)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult OSRL since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow OSRL to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for OSRL to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	13/09/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 20/09 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Incoming	13/09/2023	Automated response saying OSRL representative was out of office	-	
		Email	Outgoing	8/11/2023	Follow up on correspondence from 13/09/2023. Asking feedback or acknowledge the activities without issues or concerns.	-	
		Email	Incoming	8/11/2023	Stakeholder acknowledge the update on activities and confirm that they have no issues or concerns at present.	-	
Recfish West	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Recfish West since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Recfish West to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Recfish West to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Follow-up consultation email to relevant persons was sent.	-	
		Email	Incoming	25/07/2023	Stakeholder acknowledge the update on activities and confirm that we have no issues or concerns at present.	-	
Darwin Red Devil Charters	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Darwin Red Devil Charters since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Darwin Red Devil Charters to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Darwin Red Devil Charters to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Follow-up consultation email to relevant persons was sent.	-	
		Email	Outgoing	13/9/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 20/09/23 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up email on consultation issued 13/09/2023. Eni asked for a response until 20/09/23 if the stakeholder see itself as a relevant person for the activity.	-	
		Phone Call	Outgoing	20/11/2023	Darwin Red Devil Charters representative stated they had not seen any emails and that "they wouldn't get far with it" hung up before elaborating.	-	
		Email	Outgoing	20/03/2024	Recirculated initial outgoing consultation email to relevant persons. Eni noted no response had been received.	-	
Seafarms Group Ltd	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Seafarms Group Ltd since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Seafarms Group Ltd to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Seafarms Group Ltd to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Follow-up consultation email to relevant persons was sent.	-	
		Email	Outgoing	13/09/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 20/09/23 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up email on consultation issued 13/09/2023. Eni asked for a response until 30/11/23 if the stakeholder see itself as a relevant person for the activity.	-	
		Phone Call	Outgoing	20/11/2023	Noted that CEO and Project Managers would respond.	-	
		Email	Incoming	23/11/2023	Seafarms informed of Seafarms commencement of their own activities, indicating there would be no concerns unless the Blacktip activities would impact the quality of seawater that Seafarms would be using, at their stated intake location at Forsyth Creek.	Y	
		Email	Outgoing	9/04/2024	Eni inform Seafarm that in the highly unlikely event of a hydrocarbon release during Blacktip activities spill modelling has predicted potential for low exposure for entrained hydrocarbons at Forsyth Creek. Eni notes that modelling is highly conservative and assumes no emergency response measures, however in the unlikely case a spill occurs Eni will implement the Blacktip Oil Pollution Emergency Plan (OPEP) to mitigate and reduce any environmental impacts to the marine environment. An impact assessment for fisheries and aquaculture in the event of a spill has been assessed within the EPs. Further, Eni ensure Seafarms that Eni are responsible for any costs expenses, liability and damages that may occur. Any entity (including fisheries and aquaculture) who has, or may be, financially disadvantaged as a direct result of a hydrocarbon spill associated with Blacktip activities are entitled to seek compensation. Eni commits to notifying Seafarms in the unlikely event a spill predicted to contact Forsyth Creek occurs.	-	
Seafood Industries Australia (SIA)	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult SIA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow SIA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for SIA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Follow-up consultation email to relevant persons was sent.	-	
		Email	Outgoing	13/9/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 20/09/23 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up on correspondence from 13/09/2023. Asking feedback by 30/11/2023	-	
		Email	Outgoing	20/03/2024	Recirculated initial outgoing consultation email to relevant persons. Eni noted no response had been received.	-	
Tiwi Island Adventures	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Tiwi Island Adventures since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Tiwi Island Adventures to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Tiwi Island Adventures to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Follow-up consultation email to relevant persons was sent.	-	
		Email	Outgoing	13/9/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 20/09/23 if the stakeholder see itself as a relevant person for the activity.	-	
		Phone Call	Outgoing	10/10/2023	Contact person noted they were in QLD and not interested in discussing anything related to Eni's activity.	-	
		Email	Outgoing	10/10/2023	Forwarded consultation material following phone call.	-	
Vocus Communications	Group 3	Email	Outgoing	13/11/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Vocus Communications since it issued information regarding this EP in November 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Vocus Communications to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Vocus Communications to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Incoming	13/11/2023	Stakeholder responded with offer of supporting services.	-	
		Email	Outgoing	13/11/2023	ENI response with clarifications of the activity description, for comment.	-	
		Email	Incoming	16/11/2023	Vocus responded that the North West Cable System (NWCS) telecommunications submarine cable that runs from Darwin to Port Hedland is more than 250 km away from the well head at the nearest location, Vocus has no issues or operational concerns with this notification.	Y	
Yknot Fishing Charters	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Yknot Fishing Charters since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in

		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Yknot Fishing Charters to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Yknot Fishing Charters to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	13/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by 20 September should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Follow up email on previous consultation (13/09/2023). Noted that no response had been received. Were requested to respond by 30 November should they view themselves a Relevant Person.	-	
		Phone Call	Outgoing	21/11/2023	Spoke with representative from Yknot Fishing Charters who confirmed they had seen the emails and that they would review the proposal with their partner and reply via email.	-	
		Email	Outgoing	20/03/2024	Follow-up email requesting feedback from Yknot Fishing Charters.	-	
<i>Oil and Gas</i>							
EOG Resources Australia	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult EOG Resources Australia since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow EOG Resources Australia to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for EOG Resources Australia to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	13/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	18/07/2023	EOG thanked Eni for the information and inform Eni they consider themselves a relative person and as such would like to be kept in communications. They do not have any questions or issues at the time of writing.	Y	
Inpex	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Inpex since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Inpex to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Inpex to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	14/07/2023	Automated response that Inpex had received the email.	-	
		Email	Outgoing	14/11/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Thursday 30 November should they view themselves a Relevant Person.	-	
		Email	Incoming	14/11/2023	Automated response that Inpex had received the email.	-	
Kufpec	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Kufpec since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Kufpec to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Kufpec to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	13/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22 September if they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Follow up email on previous consultation (13/09/2023). Noted that no response had been received. Were requested to respond by Thursday 30 November should they view themselves a Relevant Person.	-	
		Phone call	Outgoing	20/11/2023	Stakeholder stated had not seen emails and stated they would forward them onto the operations manager for a reply	-	
		Email	Outgoing	20/03/2024	Follow up email with flyers requesting reply by the 28/03/2024	-	
		Email	Outgoing	25/03/2024	Recirculated initial outgoing consultation email to relevant persons. Eni noted no response had been received. Were requested to respond by 28th March 2024. This email was recalled due to typo identified.	-	
Melbana Energy	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Melbana Energy since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Melbana Energy to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Melbana Energy to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22 September if they view themselves a Relevant Person.	-	
		Email	Incoming	14/09/2023	Melbana reports that they have no issues with the planned activities at Blacktip Project. They would like to would like to stay informed of any further activities.	Y	
Neptune Energy	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Neptune Energy since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Neptune Energy to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Neptune Energy to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	1/08/2023	Neptune Energy supports Eni's activities and would like to be included in any future communication via StakeholderAustralia@neptuneenergy.com	Y	
		Email	Outgoing	14/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 22 September if they view themselves a Relevant Person.	-	
		Email	Incoming	18/09/2023	Neptune Energy supports Eni's activities and would like to be included in any future communication via StakeholderAustralia@neptuneenergy.com. Additionally ask that Eni confirm that they received this email.	Y	
		Email	Outgoing	13/11/2023	Eni acknowledging that Neptune's email had been received.	-	
Santos	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Santos since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Santos to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Santos to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	13/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 20 September if they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Follow up email on previous consultation (13/09/2023). Noted that no response had been received. Were requested to respond by Thursday 30 November should they view themselves a Relevant Person.	-	
		Phone Call	Outgoing	20/11/2023	No answer to phone call so Eni left a message including contact details.	-	
<i>NGOs</i>							
Conservation Council of Western Australia (CCWA)	Group 4	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult CCWA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow CCWA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for CCWA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Follow up email on previous consultation (14/07/2023). Noted that no response had been received. Were requested to respond by Friday 20 September if they view themselves a Relevant Person.	-	
		Email	Incoming	7/09/2023	CCWA informs Eni that they do view themselves as relevant stakeholders for the Blacktip Projects, however need more time to provide comment on the operations and drilling EP. They would also like more information on the impacts and mitigation for the proposed works.	Y	

		Email	Outgoing	7/11/2023	Eni advise that more information on the impacts and mitigations of the proposed works will be provided through the NOPSEMA EP process which will become publicly available. Eni stated if they have any further questions please contact Eni.	-	
		Email	Outgoing	22/11/2023	Follow up email requesting for feedback from CCWA.	-	
		Email	Incoming	22/11/2023	Automated response from CCWA representative stating that they no longer work at CCWA as of 27/10/2023.	-	
		Email	Outgoing	23/11/2023	Follow up email requesting for feedback from CCWA.	-	
		Email	Outgoing	19/03/2024	Follow up email requesting for feedback from CCWA.	-	
		Email	Incoming	19/03/2024	CCWA they are interested in continuing involvement in consultation with Eni Australia, however, they presently do not have the capacity to review the draft Operations and Drilling Environment Plan.	Y	
Environment Centre Northern Territory (ECNT)	Group 4	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult ECNT since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow ECNT
		Email	Outgoing	14/11/2023	Initial outgoing consultation email to relevant persons was resent.	-	
Fisheries							
A Raptis & Sons	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheet.	-	Eni has been seeking to consult A Raptis & Sons since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow A Raptis & Sons to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for A Raptis & Sons to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	13/09/2023	Follow up email on previous consultation. Noted that no response had been received. Were asked to please respond by the 20th of September should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Following up consultation invitation issued 13/09/23. Eni noted no response has been received. Were requested to respond by Thursday 30th November should they view themselves a Relevant Person	-	
		Phone Call	Outgoing	20/11/2023	Phone call follow up with relevant persons. Relevant persons stated they had no objections were issued with the Blacktip facilities and the petroleum activities.	-	
		Letter	Outgoing	22/03/2024	Outgoing consultation letter to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheet.	-	
		Letter	Outgoing	3/04/2024	Recirculated letter to relevant persons including a summary of the Blacktip facilities and the petroleum activities requesting feedback.	-	
Austral Fisheries	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Austral Fisheries since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Austral Fisheries to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Austral Fisheries to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Following up consultation invitation issues 14/07/23. Eni noted that no response has been received.	-	
		Phone Call	Outgoing	10/10/2023	Phone call follow up with relevant persons. No questions, claims, or objections were stated and no further information or updates were required. Recommended information on activities to be forwarded to another representative.	-	
		Email	Outgoing	7/11/2023	Forwarded initial outgoing consultation email to recommended representative including a summary of the Blacktip Facilities and petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	
		Email	Outgoing	20/03/2024	Initial outgoing consultation email to relevant persons was resent.	-	
		Letter	Outgoing	22/03/2024	Outgoing consultation letter to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheet.	-	
		Email	Outgoing	25/03/2024	Recirculated initial outgoing consultation email to relevant persons and included initial outgoing consultation material. Eni noted no response had been received. Were requested to respond by Thursday 28th March 2024.	-	
		Letter	Outgoing	3/04/2024	Recirculated letter to relevant persons including a summary of the Blacktip facilities and the petroleum activities requesting feedback.	-	
Commonwealth Fisheries Association (CFA)	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult CFA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow CFA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for CFA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	6/09/2023	Following up consultation invitation issues 14/07/23. Eni noted that no response has been received. Were requested to respond by Friday 22nd September should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Following up on consultation invitation issues 6/09/2023. Eni noted that no response has been received. Were asked to respond by Thursday 30th November should they view itself as a Relevant Person.	-	
		Phone Call	Outgoing	20/11/2023	Phone call follow up with relevant persons. No questions, claims, or objections were stated and no further information or updates were required. Relevant persons stated the conversation not be recorded as proper stakeholder engagement.	-	
		Email	Outgoing	20/03/2024	Follow up email of initial outgoing consultation email to relevant person including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheet	-	
		Email	Outgoing	21/03/2024	Recirculated initial outgoing consultation email to relevant persons and included initial outgoing consultation flyers. Eni noted no response had been received. Were requested o respond by Thursday 28th March 2024.	-	
Northern Prawn Fisheries	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Northern Prawn Fisheries since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Northern Prawn Fisheries to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Northern Prawn Fisheries to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	13/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	18/07/2023	Relevant person thanked for the content from the initial outgoing consultation email including a summary of the Blacktip facilities and the petroleum activities. Requested the attached material.	-	
		Email	Outgoing	18/07/2023	Attachment of the 2023 activity factsheet was sent per relevant persons request.	-	
		Email	Incoming	19/07/2023	Relevant persons state no comments on the Blacktip facilities and petroleum activities. Requested to contact the provided email address.	-	
		Phone Call	Outgoing	18/08/2023	Phone call to relevant persons to prompt a response, no answer. Voice message was left.	-	
		Email	Outgoing	18/08/2023	Email issued (undeliverable message returned).	-	
		Email	Incoming	18/08/2023	Email stated relevant persons had been cc'd in.	-	
		Email	Incoming	22/08/2023	Relevant persons requested shapefiles of the proposed drilling activities area	Y	


		Email	Outgoing	22/08/2023	Forwarded initial outgoing consultation email to relevant persons, including a summary of the Blacktip facilities and petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	
		Phone Call	Outgoing	6/11/2023	Phone call to relevant persons to prompt a response, no answer. Voice message was left.	-	
		Email	Outgoing	6/11/2023	Attached the requested shapefile from correspondence on the 22/08/23.	-	
		Email	Incoming	9/11/2023	Relevant persons requested information regarding the differences between the two EMBA's. Noted concern that in the event of an oil spill could enter onto the coast and rivers within the Joseph Bonaparte Gulf.	Y	
		Email	Outgoing	13/11/2023	Email to relevant persons describing the difference between the two EMBA's and how the EMBA works	-	
		Email	Outgoing	23/11/2023	Follow up on previous consultation requesting any concerns with the Blacktip facilities and petroleum activities approach.	-	
		Email	Outgoing	14/03/2024	Initial outgoing consultation email to relevant persons was resent.	-	
		Phone Call	Outgoing	18/03/2024	Phone call to relevant persons to prompt a response, no answer. Voice message was left.	-	
		Text message	Outgoing	18/03/2024	Text message sent to relevant persons to prompt a response.	-	
		Email	Outgoing	19/03/2024	Recirculated initial outgoing consultation email to relevant persons and included initial outgoing consultation material. Eni noted no response had been received.	-	
Northern Territory Seafood Council (NTSC) which encompasses: - Demersal Fishery - Offshore Net & Line Fishery - Spanish Mackerel Fishery - Coastal Line Fishery	Group 1	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult NTSC since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow NTSC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for NTSC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/09/2023	Follow up consultation invitation issued 14/07/23. Eni noted that no response had been received. Were requested to respond by the 20th of September should they view themselves a Relevant Person.	-	
		Phone Call	Outgoing	14/11/2023	Phone call to relevant persons. Eni were advised to send relevant stakeholder information to provided email address	-	
		Email	Outgoing	14/11/2023	Resent initial outgoing consultation email to an email addressed mentioned from phone call.	-	
		Email	Outgoing	13/03/2024	Follow up with recirculated initial outgoing consultation email to relevant persons and included initial outgoing consultation material. Eni noted no response had been received.	-	
		Email	Incoming	13/03/2024	Automated email stating the previous email sent had been read.	-	
		Phone Call	Outgoing	13/03/2024	Phone call to relevant persons and stated that they did not have time to attend to the consultation invitation.	-	
		Email	Outgoing	14/03/2024	Recirculated initial outgoing consultation email to relevant persons and included initial outgoing consultation material. Eni noted no response had been received.	-	
		Email	Incoming	14/03/2024	Automated email stating the previous email sent had been read.	-	
		Phone Call	Outgoing	14/03/2024	Phone call to relevant persons and provided further information on Blacktip facilities and petroleum activities to determine if they were relevant to the relevant persons. Relevant persons stated they will review before responding if they view themselves a relevant person.	-	
		Email	Incoming	15/03/2024	Relevant persons thanked for the consultation invitation and stated that the information had not been reviewed yet. Stated where Eni can locate a contact list with postal address to send physical information.	-	
		Letter	Outgoing	22/03/2024	Consultation letters sent out to licence holders under relevant NT fisheries requesting feedback on proposed Blacktip activities. • Coastal Line Fishery (36 licence holders) • Coastal Net Fishery (2 licence holders) • Spanish Mackerel Fishery (10 licence holders) • Demersal Fishery (9 licence holders) • Mollusc Fishery (1 licence holders) • Offshore Net and Line Fishery (8 licence holders) • Jigging Fishery (1 licence holders) • Timor Reef Fishery (5 licence holders) • Mud Crab Fishery (1 licence holders) • Barramundi Fishery (3 licence holders)	-	
		Letter	Outgoing	3/04/2024	Eni recirculated letters to relevant NT fisheries licence holders from 22/03/2024 requesting feedback on proposed Blacktip activities. • Coastal Line Fishery (36 licence holders) • Coastal Net Fishery (2 licence holders) • Spanish Mackerel Fishery (10 licence holders) • Demersal Fishery (9 licence holders) • Mollusc Fishery (1 licence holders) • Offshore Net and Line Fishery (8 licence holders) • Jigging Fishery (1 licence holders) • Timor Reef Fishery (5 licence holders) • Mud Crab Fishery (1 licence holders) • Barramundi Fishery (3 licence holders)	-	
		Email	Incoming	12/04/2024	Wife of fisher responded stating that her husbands licences does not allow him to fish within the area of interest and therefore he will not be partaking in the survey. Relevant persons holds a licence with the coastal line fishery.	-	
Northern Wild Catch Seafood Australia (NWSA)	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult NWSA since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow NWSA to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for NWSA to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Outgoing	14/09/2023	Follow up consultation invitation issued 14/07/23. Eni noted that no response had been received. Were requested to respond by the 20th of September should they view themselves a Relevant Person.	-	
		Email	Outgoing	20/11/2023	Follow up consultation invitation issued 14/09/23. Eni noted that no response had been received. Were requested to respond by Thursday 30th November should they view itself as a Relevant Person.	-	
		Phone Call	Outgoing	20/11/2023	Phone call to relevant persons and stated the email sent on 20/11/23 was viewed and will respond.	-	

		Email	Outgoing	19/03/2024	Recirculated initial outgoing consultation email to relevant persons. Eni noted no response had been received.	-	
		Email	Outgoing	25/03/2024	Recirculated initial outgoing consultation email to relevant persons and included initial outgoing consultation material. Eni noted no response had been received. Were requested to respond by Thursday 28th March 2024.	-	
Pearl Producers Australia	Group 3	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult Pearl Producers Australia since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow Pearl Producers Australia to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for Pearl Producers Australia to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Follow-up consultation email to relevant persons was sent.	-	
		Email	Outgoing	13/9/2023	Follow up email on consultation issued 14/07/2023. Eni asked for a response until 20/09/23 if the stakeholder see itself as a relevant person for the activity.	-	
		Email	Outgoing	20/11/2023	Follow up on correspondence from 13/09/2023. Asking feedback by 30/11/2023	-	
		Email	Outgoing	19/03/2024	Recirculated initial outgoing consultation email to relevant persons. Eni noted no response had been received.	-	
Western Australian Fishing Industry Council (WAFIC) Which encompasses: - Kimberley Prawn Fishery - Kimberley Crab Fishery - Kimberley Gillnet & Barramundi Fishery	Group 2	Email	Outgoing	22/06/2023	Initial outgoing consultation email to relevant persons including a summary of the Blacktip facilities and the petroleum activities. Correspondence included attachment of the 2023 activity factsheets.	-	Eni has been seeking to consult WAFIC since it issued information regarding this EP in June 2023. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow WAFIC to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for WAFIC to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	14/07/2023	Initial outgoing consultation email to relevant persons was resent.	-	
		Email	Incoming	14/07/2023	Automatic response stating contact was on leave.	-	
		Email	Outgoing	10/08/2023	Follow-up consultation email to relevant persons was sent.	-	
		Phone Call	Outgoing	8/11/2023	Call with WAFIC representative requesting feedback on proposed activities. Representative stated they have no objections or issues.	-	
		Email	Outgoing	14/11/2023	Follow up from phone call on 08/11/23. Requested if the relevant persons had any objections or issues with the Blacktip facilities and petroleum activities.	-	
<i>Self Identified Relevant Persons</i>							
Self Identified Relevant Person	Group 4	Email	Incoming	11/01/2024	Relevant person requested to provide feedback on the Blacktip Drilling Environmental Plan which was advertised in the West Australian on December 30th 2023. Relevant person requested that Eni provide an email address with a relevant form so that they are able to provide adn send feedback.	-	Eni has been seeking to consult the Self Identified Relevant Person since it issued information regarding this EP in January 2024. Eni has made subsequent consultation efforts in accordance with its consultation approach outlined in Appendix C1. Eni has provided sufficient information to allow the Self Identified Relevant Person to make an informed assessment of the possible consequences of the activities the subject of this EP on their functions, interests or activities. Eni has provided a reasonable period for the Self Identified Relevant Person to provide objections or claims in relation to the EP and for consultation to occur. In these circumstances, Eni considers consultation is complete.
		Email	Outgoing	11/01/2024	Eni informed relevant person that there are no feedback forms to complete however if they feel they are relevant to the activity that they may provide comment by responding to this email. Eni request that a response is recieved within 7 days.	-	
		Email	Incoming	12/01/2024	Relevant person provided feedback to Eni regarding the broad capture efforts published in the West Australian newspaper December 30, 2023. Relevant matters raised included: -the contribution of greenhouse gases from the proposed activities to climate change -the proposed activity does not support the transition away from fossil fuels and is contrary to Eni's commitment to 'sustainable and responsible energy transition' -the principal of intergenerational equity is the responsibility of companies and is not met by the proposed activity -persons considers themselves relevant as community interests may be affected by the proposed activity due to the emissions of GHG resulting in an increased climate change and more extreme weather events -the impacts and risks (individually and cumulatively) to the marine environment from the proposed activity are unacceptable and should be avoided -the omission of a GHG assessment is unacceptable. Relevant person concludes that the only way to mitigate potential impacts is to avoid all the impacts by withdrawing the proposal.	Y	
		Email	Outgoing	12/01/2024	Eni acknowledged the receipt of feedback and informed the relevant person that it will be reviewed.	Y	

	eni australia	Company document identification 000036_DV_PR.HSE.0887.000	Owner document identification	Rev. index.	
				Validity Status	Rev. No.
				PR-OP	04

APPENDIX C5:

2022 RELEVANT PERSON CONSULTATION RECORDS

	Company document identification	Owner document identification	Rev. index.	
	000036_DV_PR.HSE.0887.000		Validity Status	Rev. No.
			PR-OP	04

Stakeholder	Relevance or reasoning for engagement	Consultation summary	Claim Ref. Number	Assessment of the merits of objections and claims	Statement of response, or proposed response, to the objections and claims	Relevant EP Sections
Shipping safety, security and communications						
AHO	AHO is responsible for maintaining and disseminating nautical charts and distributing Notices to Mariners.	<p>AHO was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022. On 11 May, AHO acknowledged receipt of the email and confirmed the data supplied would now be registered, assessed, prioritised and validated in preparation for updating AHO's Navigational Charting products (CLAIM 01).</p> <p>An activity update consultation sheet was provided on 26 August 2022.</p> <p>Eni considers the level of consultation to be adequate and will address any comments from this stakeholder should they arise in the future.</p>	01	On assessment of AHO's advice, Eni reviewed its processes to ensure AHO's notification requirements will be part of the ongoing communications for this activity.	No response was required. AHO is notified four weeks before commencing drilling. Refer Table 10.3.	Table 10.3
AMSA	AMSA is the statutory authority established under <i>Australian Maritime Safety Act 1990</i> . Its principal functions are promoting maritime safety and protecting the marine 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 services to the maritime and aviation sectors.	<p>AMSA was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022. On 17 May, AMSA responded with acknowledgement of the proposal and included maritime safety information:</p> <ul style="list-style-type: none"> Contact AHO no less than four working weeks before operations with relevant details. AHO will then promulgate the appropriate Notice to Mariners, which will ensure other vessels are informed of activities (CLAIM 01). Notify AMSA's Joint Rescue Coordination Centre (JRCC) for promulgation of radio-navigation warnings at least 24 to 48 hours before operations commence. The JRCC will also need to be advised when operations start and end (CLAIM 02). Provide updates to both AHO and the JRCC on progress and, importantly, any changes to the intended operations (CLAIM 03). To obtain a vessel traffic plot showing Automatic Identification System traffic data for the area of interest, Eni should visit AMSA's spatial data gateway and portal to download digital datasets and maps (CLAIM 04). Vessels must comply with the International Rules for Preventing Collisions at Sea, in particular the use of appropriate lights and shapes to reflect the nature of operations. They should also ensure their navigation status is set correctly in the Automatic Identification System unit (CLAIM 05). <p>An activity update consultation sheet was provided on 26 August 2022.</p> <p>Eni advised AMSA on 9 October 2022 that matters raised in the correspondence have been addressed in the EP.</p>	01 02 03 04 05	On assessment of AMSA's advice, Eni reviewed its processes to ensure AMSA's requirements will be part of the ongoing communications for this activity.	<p>Eni responded to AMSA on 9 October 2022, advising that matters raised in the correspondence have been addressed in the EP.</p> <p>AHO is notified four weeks before commencing drilling. Refer Table 10.3.</p> <p>AMSA's JRCC is notified 24 to 48 hours before operations commence. Refer Table 10.3.</p> <p>Eni has been providing updates to both AHO and the JRCC on progress and, importantly, any changes to the intended operations (refer to updated consultation sheet provided on 26 August 2022).</p> <p>The Blacktip drilling activities comply with navigation lighting and aids in accordance with AMSA Marine Order Part 30: Prevention of collisions, and with Marine Order Part 21: Safety of navigation and emergency procedures (refer Section 7.1).</p>	Table 10.3 Section 7.1



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		Eni considers the level of consultation to be adequate and will address any comments from this stakeholder should they arise in the future.				
Defence	The Commonwealth Defence as an Australian Government Agency is identified as a relevant person under the OPGGS(E) Regulations 2023.	<p>Defence was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022.</p> <p>On 10 June 2022, Defence replied to Eni advising that:</p> <ul style="list-style-type: none"> WA-33-L is located within the NAXA and restricted airspace R264G. Defence requests that Eni vacates the area during the approximate period of 12 to 25 September 2022, with an allowance of a few days for flexibility. Eni is advised that unexploded ordnance (UXO) may be present on and in the sea floor within the NAXA. Eni must, therefore, inform itself as to the risks associated with conducting activities in the area (for example, the detonation of UXO). <p>Additionally, Eni was advised that:</p> <ol style="list-style-type: none"> all activities in the area are conducted at its own risk the Commonwealth of Australia, represented by Department of Defence, takes no responsibility for: <ol style="list-style-type: none"> reporting the location and type of UXO that may be in the areas identifying or removing any UXO from these areas any loss or damage suffered or incurred by Eni or any third party arising out of, or directly related to, UXO in the area. <p>Defence requested that to ensure Eni activities do not conflict with Defence training, Defence requires a minimum of five weeks' notification before the actual commencement of activities. Notification will need to be provided to offshore.petroleum@defence.gov.au (CLAIM 06).</p> <p>On 30 June 2022, Eni replied to Defence, informing:</p> <ul style="list-style-type: none"> The WHP is located in WA-33-L, which is a permanently unpopulated platform and has been in operation since 2009. The infill drilling activity is planned to occur from the WHP; however, it should also be noted the WHP is in production and may also require urgent maintenance, meaning WHP visitation to perform activities, regardless of the date. Eni queried if Defence has the location of the WHP and GEP. 	06 07	On assessment of Defence's advice, Eni reviewed its processes to ensure Defence's requirements will be part of the ongoing communications for this activity.	<p>Eni responded to Defence on 9 October 2022, advising that matters raised in the correspondence have been addressed in the EP.</p> <p>Any activities undertaken within Restricted Airspace need to comply with the relevant Notice to Airmen restrictions. The airspace has been described in Section 4.6.5 and impact to defence activities has been assessed in Section 7.1.</p> <p>Defence will be contacted at least five weeks before commencing activities. Refer Table 10.3.</p> <p>Eni has been providing updates to Defence on progress and timing (refer to updated consultation sheet provided on 26 August 2022 and correspondence on 10 October).</p>	Section 4.6.5 Section 7.1 Table 10.3

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		<p>Eni also requested further information about why Defence believes Eni activities are incompatible with Defence operations during the period.</p> <p>On 30 June 2022, Defence replied stating that Minister for Defence has the authority, under the Defence Regulation 2016, to gazette any area of sea or airspace as a Defence Practice Area (DPA) for carrying out Defence operations or practices. The NAXA has been gazetted as a DPA.</p> <p>Defence reserves the right to order the evacuation of any gazetted DPA at short notice and unauthorised access to the area will be prohibited as per Section 59 of the Defence Regulation 2016.</p> <p>An activity update consultation sheet was provided on 26 August 2022.</p> <p>On 30 August 2022, Defence replied requesting clarity on the specific timing of activities (CLAIM 07).</p> <p>On 31 August, Eni provided Defence with an update of the timing on activities.</p> <p>On 30 August 2022, Defence replied to Eni thanking Eni for the clarification.</p> <p>Eni responded to Defence on 9 October 2022, advising that matters raised in the correspondence have been addressed, and provided an update on timing in the EP.</p> <p>Eni considers the level of consultation to be adequate and will address any comments from this stakeholder should they arise in the future.</p>				

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WA DoT	DoT is responsible for marine safety, marine environment protection and coastal facilities. Administers the WestPlan – Marine Oil Pollution.	<p>DoT was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022 and responded via email on 16 May:</p> <ul style="list-style-type: none"> If there is a risk of a spill impacting State waters from the proposed activities, please ensure DoT is consulted as outlined in the Department of Transport Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020) (CLAIM 08). <p>An activity update consultation sheet was provided on 26 August 2022.</p> <p>On 6 September, WA DoT responded and reiterated its response to previous consultation material.</p> <p>Eni will respond to WA DoT advising that matters raised in the correspondence have been addressed and will provide a copy of the Blacktip OPEP (000036_DV_PR.HSE.0388.000_Rev15).</p> <p>Eni considers the level of consultation to be adequate and will address any comments from this stakeholder should they arise in the future.</p>	08	On assessment of the WA DoT advice, Eni reviewed its processes to ensure the WA DoT requirements will be part of the ongoing communications for this activity. This included the consultation requirements as outlined in Department of Transport Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020).	<p>WA DoT is notified of all actual or impending marine oil pollution incidents that are in, or may impact, State waters resulting from an offshore petroleum activity as per Table 10.3.</p> <p>Eni commits to ongoing consultation with DoT regarding its role as State marine pollution coordinator, as per Department of Transport Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020).</p>	Blacktip OPEP 000036_DV_PR.HSE.0388.000_Rev15 Table 10.3
Commonwealth government departments						
Australian Fisheries Management Authority	AFMA is the Australian Government agency responsible for the efficient management and sustainable use of Commonwealth fish resources.	<p>AFMA was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022. On 13 May, AFMA responded with acknowledgement and no specific comment on the proposal. AFMA suggested for the area that the drilling is located, Eni contacts the Northern Prawn Fishery and Commonwealth Fisheries Association (CFA) (CLAIM 09).</p> <p>An activity update consultation sheet was provided on 26 August 2022. Eni also advised that it did not receive a response from NPF on the contact details provided by AFMA, despite numerous attempts, and would AFMA be able to clarify the best means of contacting NPF.</p> <p>On 30 August, AFMA responded noting no specific comments; however, the Blacktip Drilling Activity occurs within an area that is actively fished by the NPF, so Eni should make further efforts to contact the NPF (CLAIM 10).</p> <p>Eni responded to AFMA on 9 October 2022, advising that matters raised in the correspondence have been addressed in the EP.</p> <p>Eni considers the level of consultation to be adequate and will address any comments from this stakeholder should they arise in the future.</p>	09 10	On assessment of the advice and in consideration of AFMA's consultation, Eni contacted both the NPF and CFA. Eni has made multiple attempts at eliciting a response from NPF. Eni has also identified other commercial fishing organisations, such as the NT Guided Fishing Industry Association (NTGFIA) and Western Australian Fishing Industry Council (WAFIC), and consulted with these organisations.	<p>Eni responded to AFMA on 9 October 2022, advising that matters raised in the correspondence have been addressed in the EP.</p> <p>As requested by AFMA, Eni contacted both the NPF and CFA. Eni has made multiple attempts to elicit a response from NPF.</p>	This table

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DNP (Marine Parks)	DNP is the statutory authority responsible for administering, managing and controlling Australian Marine Parks.	<p>DNP was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022.</p> <p>DNP responded on 23 June, noting the BIAs and KEFs present or nearby to the Operational Area are:</p> <ul style="list-style-type: none"> foraging: olive ridley turtles and green turtles carbonate bank and terrace system of the Sahul Shelf KEF. <p>DNP requested that to minimise disturbance to marine fauna and subsequent Marine Park values, ensure activities align with EPBC Regulations (Part 8) for interacting with cetaceans (CLAIM 11).</p> <p>DNP requested:</p> <ul style="list-style-type: none"> In preparing the EP, Eni should consider the Australian marine parks and their representativeness. In the context of the management plan objectives and values, Eni should ensure the EP: <ul style="list-style-type: none"> identifies and manages all impacts and risks on Australian marine park values (including ecosystem values) to an acceptable level and has considered all options to avoid or reduce them to as low as reasonably practicable (CLAIM 12) clearly demonstrates that the activity will not be inconsistent with the management plan (CLAIM 13). <p>DNP noted the activity does not overlap marine parks and confirmed it does not require further notification of progress made in relation to this activity, unless details regarding the activity change and result in an overlap with or new impact to a marine park. DNP also provided notification details should incidences occur within a marine park or are likely to impact a marine park (CLAIM 14).</p> <p>An activity update consultation sheet was provided on 26 August.</p> <p>Eni responded to DNP on 10 October 2022, advising that matters raised in the correspondence have been addressed in the EP.</p> <p>Eni considers the level of consultation to be adequate and will address any comments from this stakeholder should they arise in the future.</p>	11 12 13 14	<p>On assessment of the DNP advice, Eni:</p> <ol style="list-style-type: none"> reviewed the EPBC Regulations (Part 8) for interacting with cetaceans requirements in relation to the Blacktip drilling activities reviewed the North Marine Parks Network Management Plan (DNP, 2018) values and assessed the Blacktip drilling activities consistency with them reviewed its processes to ensure DNP's requirements will be part of the ongoing communications for this activity. 	<p>Eni responded to DNP on 10 October 2022, advising that matters raised in the correspondence have been addressed in the EP. Specifically:</p> <ol style="list-style-type: none"> Eni has reviewed the EPBC Regulations (Part 8) for interacting with cetaceans for requirements in relation to the Blacktip drilling activities. Sections 7.3 and 8.2 adopt controls relating to EPBC Regulations (Part 8). Eni has reviewed the North Marine Parks Network Management Plan (DNP, 2018) values and assessed the Blacktip drilling activities' consistency with them. Eni has a considered all options to avoid or reduce impacts to values of the AMPs to as low as reasonably practicable (ALARP and acceptability subsections throughout Sections 7 and 8). Full detailed assessments have been included for light impacts, noise impacts and hydrocarbon release impacts. DNP will be contacted should incidences occur within a marine park or are likely to impact a marine park (Table 10.3). 	<p>Section 7.3 Section 8.2 Sections 7 and 8 Table 8.14 Table 8.15 Table 10.3</p>

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State government departments						
NT Department of Primary Industry and Resources (DPIR)- Fisheries	DPIR has a key role to play in the emerging agenda for developing northern Australia. Its three areas of focus are growing new industries, including diversification of existing production enterprises; protecting industries and market access; and providing the specialist services needed for these operations.	DPIR was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022. An activity update consultation sheet was provided on 26 August 2022. No reply has been received by submission of this EP. Eni has previously consulted with DPIR on the Blacktip operations as part of the Blacktip Operations EP (000036_DV_PR.HSE.0677.000) submission. No objections or claims have previously been made relating to the Blacktip facilities. Given this, Eni considers the level of consultation for this EP to be adequate. Eni will address any comments from this stakeholder should they arise in the future.	N/A	No response required.	No response required.	Fishing effort in the Operational Area has been discussed in Section 4.6 of the EP.
NT Environment Protection Authority (NTEPA)	NTEPA is an independent authority established under the NT <i>Environment Protection Authority Act</i> . NTEPA provides advice about the environmental impacts of development proposals and advice and regulatory services to encourage effective waste management, pollution control and sustainable practices.	NTEPA was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022. An activity update consultation sheet was provided on 26 August 2022. No reply has been received by submission of this EP. Eni has previously consulted with NTEPA on the Blacktip operations as part of the Blacktip Operations EP (000036_DV_PR.HSE.0677.000) submission. No objections or claims have previously been made relating to the Blacktip facilities. Given this, Eni considers the level of consultation for this EP to be adequate. Eni will address any comments from this stakeholder should they arise in the future.	N/A	No response required.	No response required.	N/A
WA DPIRD – Fisheries	DPIRD is responsible for conserving, developing and managing WA aquatic resources, commercial and recreational fishing licencing, and protecting the aquatic environment and fish ecosystems.	DPIRD was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022. An activity update consultation sheet was provided on 26 August 2022. No reply has been received by submission of this EP. Eni has previously consulted with WA DPIRD on the Blacktip operations as part of the Blacktip Operations EP (000036_DV_PR.HSE.0677.000) submission. No objections or claims have previously been made relating to the Blacktip facilities. Given this, Eni considers the level of consultation for this EP to be adequate. Eni will address any comments from this stakeholder should they arise in the future.	N/A	No response required.	No response required.	Fishing effort in the Operational Area has been discussed in Section 4.6 of the EP.
WA DBCA	DBCA is responsible for promoting biodiversity and conservation, through sustainably managing WA's species, ecosystems, lands and the attractions in its care. DBCA comprises Botanic Gardens and Parks Authority,	DBCA was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022.	N/A	No response required.	No response required.	N/A

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	Zoological Parks Authority and the former Department of Parks and Wildlife.	<p>On 1 June 2022, DBCA responded with acknowledgement and no specific comment on the proposal.</p> <p>An activity update consultation sheet was provided on 26 August 2022.</p> <p>Eni responded to WA DBCA on 9 October 2022, advising that matters raised in the correspondence have been addressed in the EP.</p>				
WA DMIRS (now DEMIRS)	<p>DMIRS is responsible for ensuring the State's resources sector is developed and managed responsibly and sustainably for the benefit of all Western Australians. Prior to NOPSEMA, it was the Designated Authority for adjacent Commonwealth waters.</p> <p>As recommended by DMIRS, pre-start and cessation notifications of activities being undertaken in Commonwealth waters adjacent to the WA coastline must be provided.</p>	<p>DMIRS was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022.</p> <p>On 10 June, WA DMIRS responded that it has reviewed the notification and does not require any further information at this stage. Please provide pre-start notification confirming the start date of the proposed activity and a cessation notification to inform DMIRS upon completion of the activity to petroleum.environment@dmirs.wa.gov.au (CLAIM 15).</p> <p>An activity update consultation sheet was provided on 26 August 2022.</p> <p>WA DMIRS responded on 20 September advising it has no further comment and refer to previous correspondence.</p> <p>Eni responded to WA DMIRS on 9 October 2022, advising that matters raised in the correspondence have been addressed in the EP.</p>	15	On assessment of the WA DMIRS advice, Eni reviewed its processes to ensure the WA DMIRS requirements will be part of the ongoing communications for this activity.	Eni responded to WA DMIRS on 10 October 2022, advising that matters raised in the correspondence have been addressed in the EP. Specifically that WA DMIRS is sent pre-start notification confirming the start date of the proposed activity and a cessation notification to inform DMIRS upon completion of the activity. Refer Table 10.3.	Table 10.3.
Fishing industry						
CFA	CFA was engaged as a representative body for Commonwealth fisheries. As no Commonwealth fishing activity for the tuna industry has been identified in recent years, the level of interest from CFA is expected to be low.	<p>CFA was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022. A follow-up email was sent on 6 June 2022.</p> <p>An activity update consultation sheet was provided on 26 August 2022.</p> <p>No reply has been received by submission of this EP.</p> <p>Eni has previously consulted with CFA on the Blacktip operations as part of the Blacktip Operations EP (000036_DV_PR.HSE.0677.000) submission. No objections or claims have previously been made relating to the Blacktip facilities. Given this, Eni considers the level of consultation for this EP to be adequate. Eni will address any comments from this stakeholder should they arise in the future.</p>	N/A	No response required.	No response required.	N/A
WAFIC	WAFIC is the peak industry body representing the interests of the commercial fishing, pearling and aquaculture sector. WAFIC is a relevant stakeholder for the Blacktip drilling activities.	<p>WAFIC was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022.</p> <p>On May 31, WAFIC responded with a request for a summary outline of what the cuttings management processes will be to reduce impacts and confirmation</p>	16	<p>On assessment of the WAFIC response, Eni provided:</p> <ol style="list-style-type: none"> details of cuttings impacts and controls details of the OPEP and Shipboard Marine Pollution Emergency Plans 	Eni responded to WAFIC on 9 October 2022, advising that matters raised in the correspondence have been addressed in the EP. Specifically: <ul style="list-style-type: none"> Cuttings management impacts and controls are included in Section 7.9.4 of the EP. 	<p>Section 7.9.4</p> <p>Section 7.1</p> <p>Section 7.3</p> <p>Section 7.8</p> <p>Sections 8.6</p>

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		<p>over any risk of a spill event and scientific monitoring (CLAIM 16).</p> <p>Eni replied to WAFIC on 14 June 2022 and advised that:</p> <ul style="list-style-type: none"> cuttings modelling has been completed and provided an overview of the results (presented in Section 7.9.2.2); Eni also provided details of the control measures for cuttings management there is an OPEP in place for the drilling and an Operational and Scientific Monitoring Plan and outlined the studies included Eni is responsible for the full extent of any costs, expenses, liability and damages that occur, including any civil liability damages (e.g., in the event of a spill) that might be pursued through civil action in a court of law, or under the 'polluter pays' statutory duty under the OPGGS Act. <p>On 14 June, WAFIC responded stating at this stage it had no further concerns regarding the Blacktip drilling activities.</p> <p>An activity update consultation sheet was provided on 26 August 2022. Eni provided further detail on the discharge of cuttings.</p> <p>On 6 September, WAFIC responded stating previous comments remain valid and at this stage it has no concerns regarding combining activities into a single EP.</p> <p>Eni responded to WAFIC on 9 October 2022, advising that matters raised in the correspondence have been addressed in the EP.</p>		<p>contents relating to monitoring impacts</p> <p>3. details on Eni's responsibilities relating to costs, expenses, liability and damages.</p>	<ul style="list-style-type: none"> Eni is using the accepted Blacktip Operations OPEP (000036_DV_PR.HSE.0388.000_Rev15) and Scientific Monitoring Plan (000036_DV_PR.HSE.0860.000) which include studies to determine impact to fish and fisheries from a spill. <p>Impacts to fisheries have also been discussed in:</p> <ul style="list-style-type: none"> Section 7.1 (interaction with other marine users) Section 7.3 (noise) Section 7.8 (drilling muds and fluids discharge) Section 7.9 (cuttings discharge) Sections 8.6 (spills). 	
NTGFIA	NTGFIA is the industry body for guided fishing and recreational fishers.	<p>NTGFIA was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022.</p> <p>A follow-up email was sent on 28 June 2022. No reply has been received by submission of this EP.</p> <p>An activity update consultation sheet was provided on 26 August 2022. No reply has been received by submission of this EP.</p> <p>Eni has previously consulted with NTGFIA on the Blacktip operations as part of the Blacktip Operations EP (000036_DV_PR.HSE.0677.000) submission. No objections or claims have previously been made relating to the Blacktip facilities. Given this, Eni considers the level of consultation for this EP to be adequate. Eni will address any comments from this stakeholder should they arise in the future.</p>	N/A	No response required.	No response required.	N/A
NPF	Fishing group.	<p>NPF was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022.</p>	17 18	Eni has not received a response from NPF for this EP; however, notes the claim raised by NPF during preparation of the Blacktip Operations	Eni has reviewed the impacts to the NPF as part of this EP. The following sections include an assessment of impacts to NPF interests:	Section 7.9 Section 7.1 Section 7.8

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		<p>Eni sent a follow-up email on 6 June 2022, which included an attachment of the emails between NPF and Eni in 2019 during planning of the development well, with the aim to facilitate any feedback on the scope of this EP.</p> <p>Eni sent a follow-up email on 28 June 2022 and left a message regarding the proposed drilling and information contained in the information sheet.</p> <p>A further phone call was made on 29 June, without response.</p> <p>A further phone call was made on 30 June, without response.</p> <p>Eni sent a follow-up email on 30 June 2022, which included an attachment of the emails between NPF and Eni in 2019. Also included that correspondence had been made with WAFIC regarding the activity.</p> <p>An activity update consultation sheet was provided 26 August 2022. Eni followed up with a phone call, without response.</p> <p>Eni sent follow-up emails on both 26 August and 21 September.</p> <p>Contact details for the NPF (email and phone numbers) were taken from the NPF website (http://npfindustry.com.au/), which are the same that were provided by AFMA during consultation.</p> <p>Eni has previously consulted with NPF on the Blacktip operations as part of the Blacktip Operations EP (000036_DV_PR.HSE.0677.000) submission. NPF requested that Eni minimises and mitigates impacts on both NPF fishing operations and prawn stock in the area as much as possible (CLAIM 17).</p> <p>NPF also requested that installation of a well as proposed is undertaken outside of NPF fishing seasons (1 December to 1 April) (CLAIM 18).</p> <p>Eni sent an email to NPF on 9 October, presenting how previous claims have been addressed in the EP.</p> <p>Eni considers the level of consultation for this EP to be adequate. Eni will address any comments from this stakeholder should they arise in the future.</p>		EP in 2019. Eni has reviewed the impacts to the NPF as part of this EP.	<ul style="list-style-type: none"> Section 7.1 (interaction with other marine users) Section 7.8 (drilling muds and fluids discharge) Section 7.9 (cuttings discharge) Sections 8.6 (spills). <p>Eni has adopted controls so all impacts to NPF are reduced to ALARP and acceptable levels.</p> <p>Eni will continue to elicit a response from NPF.</p>	Sections 8.6
Other						
Thamarrurr Development Corporation/Rangers	Subsistence fishing. Based out of Wadeye.	<p>Thamarrurr Development Corporation was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 9 May 2022.</p> <p>An activity update consultation sheet was provided on 26 August 2022.</p> <p>Eni has previously consulted with Thamarrurr Rangers on the Blacktip operations as part of the Blacktip Operations EP</p>	N/A	No response required.	No response required.	N/A

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		(000036_DV_PR.HSE.0677.000) submission. No objections or claims have previously been made relating to the Blacktip facilities. Eni has regular ongoing engagement with the Thamarrurr Rangers regarding other activities related to the onshore YGP. Given this, Eni considers the level of consultation for this EP to be adequate. Eni will address any comments from this stakeholder should they arise in the future.				
Recfishwest	Industry non-government organisation – peak recreational fishing body and advocate for fisheries.	Recfishwest was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 6 June 2022. An activity update consultation sheet was provided on 26 August 2022. No reply has been received by submission of this EP. Eni has previously consulted with Recfishwest on the Blacktip operations as part of the Blacktip Operations EP (000036_DV_PR.HSE.0677.000) submission. No objections or claims have previously been made relating to the Blacktip facilities. Given this, Eni considers the level of consultation for this EP to be adequate. Eni will address any comments from this stakeholder should they arise in the future.	N/A	No response required.	No response required.	N/A
NLC	Administers the <i>Aboriginal Land Rights (NT) Act</i> and <i>Native Title Act</i> and controls access to Aboriginal Land through permits to enter.	NLC was provided the 2022 Blacktip Drilling EP consultation information sheet via email on 28 June 2022. An activity update consultation sheet was provided on 26 August 2022. No reply has been received by submission of this EP. Eni has previously consulted with NLC on the Blacktip operations as part of the Blacktip Operations EP (000036_DV_PR.HSE.0677.000) submission. No objections or claims have previously been made relating to the Blacktip facilities. Given this, Eni considers the level of consultation for this EP to be adequate. Eni will address any comments from this stakeholder should they arise in the future. Eni sent a follow-up email to NLC on 9 October.	N/A	No response required.	No response required.	N/A

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				Validity Status	Rev. No.
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APPENDIX D:

HSE STATEMENT

health safety & environment statement

Eni Australia Ltd, in its natural resources and energy evolution activities is committed to providing a safe work place, safe systems of work, a competent workforce and a culture conducive to exercising prudent Health, Safety, Environment (HSE) and Energy Management practices and behaviours.

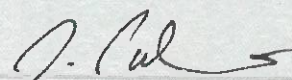
This commitment statement applies to all operational activities undertaken by Eni Australia Ltd, including activities carried out by our contractors and sub contractors.

Eni Australia Ltd will:

- Provide a safe and healthy workplace for the prevention of worker related injury and ill health.
- Set objectives and targets to ensure continual improvement in the HSE Management System and overall HSE performance.
- Comply with relevant legislation and other obligations, or apply company standards where laws and regulations do not exist.
- Commit to eliminating HSE risks across the business life cycle to As Low as Reasonably Practicable
- Adopt high management and technical standards to prevent and mitigate major accidents associated with process safety events.
- Include HSE performance in appraisal of staff and contractors.
- Respect the environment and prevent pollution by actively monitoring and managing emissions, effluents, discharges and other impacts on the environment.
- Endeavour to reduce greenhouse gas emission intensity, fugitive emissions and process flaring as part of our climate strategy.
- Adopt energy efficient systems in our planning activities.
- Provide systems, resources and skills to maintain emergency response capabilities.
- Consult with stakeholders, local communities, public interest groups, workers and their representatives.
- Remain committed to sustainable development and the welfare of our host communities, and
- Promote HSE best practice in all our activities.

All staff, contractors and sub contractors at Eni Australia Ltd have a personal responsibility to support this HSE Statement and are encouraged to openly report any HSE issue or concern. In addition, everyone is obliged to intervene in unsafe acts or conditions to prevent injury, environmental impact or damage to assets.

Managing Director



Denis Palermo

Date

01 November 2023



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australia