

Macedon Operations Environment Plan (Commonwealth)

Australian Operations

February 2024

Revision 11

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1. INTRODUCTION

1.1 Overview

Woodside Energy (Australia) Pty Ltd (Woodside), as Titleholder under the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Commonwealth) (referred to as the Environment Regulations), and as a participant in the Joint Venture detailed in **Section 1.6**, submits this Environment Plan in respect of the Macedon field production system which is operated on behalf of the Joint Venture by Woodside Energy Global Pty Ltd. The Macedon field production system commenced operation in 2013. The Macedon field production system consists of four subsea wells, subsea production equipment and the Commonwealth waters portion of a wet gas pipeline. The Macedon field production system and primary approval for the Macedon development (**Section 1.10.2**), also has capacity for future subsea wells, one of which may be added during the life of this Environment Plan.

The following activities are proposed to occur within production licence WA-42-L and pipeline licence WA-23-PL:

- Production of gas from four existing subsea wells
- Production of gas from one future subsea well
- Management of two plugged and suspended exploration wells with wellheads
- Transportation of wet gas from the Macedon gas field to the Macedon Gas Plant located south of Onslow in Western Australia (WA)
- well unloading and clean-up of a new well to the Macedon Gas Plant
- Routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities.

These activities will hereafter be referred to as the Petroleum Activities Program (PAP) and form the scope of this Environment Plan (EP). A more detailed description of the activities is provided in **Section 3**.

The transportation of gas through State waters and the processing of gas at the onshore Macedon Gas Plant are outside the scope of this EP. These activities are covered under separate EPs and other approvals prepared in accordance with the applicable State regulations.

This EP has been prepared in accordance with the requirements of the Environment Regulations administered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). In accordance with the requirements of Regulation 41 of the Environment Regulations, Woodside has submitted this revision of the Macedon Operations EP (Commonwealth) to NOPSEMA at least 14 days before the end of the five-year period from the previous acceptance under Regulation 11 of the Environment Regulations.

1.2 Purpose of the Environment Plan

In accordance with the objectives of the Environment Regulations, the purpose of this EP is to demonstrate that:

- the potential environmental impacts and risks (planned (routine and non-routine) and unplanned) that may result from the PAP are identified
- appropriate management controls are implemented to reduce impacts and risks to a level that is 'as low as reasonably practicable' (ALARP) and acceptable
- the PAP is carried out in a manner consistent with the principles of ecologically sustainable development (as defined in Section 3A of the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) (EPBC Act)).

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This EP describes the process and resulting outputs of the risk assessment, whereby impacts and risks are managed accordingly.

The EP defines activity-specific environmental performance outcomes (EPOs), standards (EPSs), and measurement criteria (MC). These form the basis for monitoring, auditing, and managing the PAP to be undertaken by Woodside and its contractors. The implementation strategy (derived from the decision support framework tools) specified in this EP provides Woodside and NOPSEMA with the required level of assurance that impacts and risks associated with the activity are reduced to ALARP and are acceptable.

1.3 Scope of the Environment Plan

The scope of this EP covers the activities that define the PAP, as described in **Section 3**. The Operational Area, as defined in **Section 3.4**, defines the spatial boundary of the PAP.

This EP addresses potential environmental impacts from planned activities and potential unplanned risks that originate from within the Operational Area. Transit to and from the Operational Area by project vessels, as well as port activities associated with these vessels, are not within the scope of this EP. Vessels supporting PAP operating outside the Operational Area (e.g., transiting to and from port) are subject to applicable maritime regulations and other requirements and are not managed by this EP.

1.4 Environment Plan Summary

Table 1-1 summarises the content within this EP, as required by Regulation 35(7).

Table 1-1: Environment Plan Summary

EP Summary material requirement	Relevant section of this EP containing EP Summary material
The location of the activity	Section 3
A description of the receiving environment	Section 4
A description of the activity	Section 3
Details of the environmental impacts and risks	Section 5
The control measures for the activity	Section 5
The arrangements for ongoing monitoring of the titleholder's environmental performance	Section 7.8
Response arrangements in the oil pollution emergency plan (OPEP)	Section 7.11
Consultation already undertaken and plans for ongoing consultation	Appendix F
Details of the titleholder's nominated liaison person for the activity	Section 1.7.2

1.5 Structure of the Environment Plan

The EP has been structured to reflect the process and requirements of the Environment Regulations, as outlined in Table 1-2.

Table 1-2: EP process phases, applicable Environment Regulations and relevant section of EP

Criteria for acceptance	Content Requirements/Relevant Regulations	Elements	Section of EP
Regulation 34(a): is appropriate for the nature and scale of the activity	Regulation 21: Environmental Assessment Regulation 22: Implementation strategy for the environment plan Regulation 24: Other information in the environment plan	The principle of 'nature and scale' applies throughout the EP	Section 2 Section 3 Section 4 Section 5 Section 6.9 Appendix F
Regulation 34(b): demonstrates that the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable	Regulation 21(1)–21(7): 21(1) Description of the activity 21 (2)(3) Description of the environment 21(4) Requirements 21 (5)(6) Evaluation of environmental impacts and risks 21(7) Environmental performance outcomes and standards Regulation 24(a)–24(c): A statement of the titleholder's corporate environmental policy A report on all consultations between the titleholder and any relevant person	Set the context (activity and existing environment) Define 'acceptable' (the requirements, the corporate policy, relevant persons) Detail the impacts and risks Evaluate the nature and scale Detail the control measures – ALARP and acceptable	Section 1 Section 2 Section 3 Section 4 Section 5 Section 6.9 Appendix F
Regulation 34(c): demonstrates that the environmental impacts and risks of the activity will be of an acceptable level			
Regulation 34(d): provides for appropriate environmental performance outcomes, environmental performance standards and measurement criteria	Regulation 21(7): Environmental performance outcomes and standards	EPOs EPSs MC	Section 5
Regulation 34(e): includes an appropriate implementation strategy and monitoring, recording and reporting arrangements	Regulation 22: Implementation strategy for the environment plan	Implementation strategy, including: <ul style="list-style-type: none">• systems, practices and procedures• performance monitoring• OPEP and scientific monitoring• ongoing consultation.	Section 6.9 Appendix G
Regulation 34 (f): does not involve the activity or part of the activity, other than arrangements for environmental	Regulation 21 (1)–21(3): 21(1) Description of the activity 21(2) Description of the environment 21(3) Without limiting [Regulation 21(2)(b)], particular relevant values	No activity, or part of the activity, undertaken in any part of a declared World Heritage property	Section 3 Section 4 Section 5

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Criteria for acceptance	Content Requirements/Relevant Regulations	Elements	Section of EP
<p>monitoring or for responding to an emergency, being undertaken in any part of a declared World Heritage property within the meaning of the EPBC Act</p>	<p>and sensitivities may include any of the following:</p> <ul style="list-style-type: none"> (a) the world heritage values of a declared World Heritage property within the meaning of the EPBC Act; (b) the national heritage values of a National Heritage place within the meaning of that Act; (c) the ecological character of a declared Ramsar wetland within the meaning of that Act; (d) the presence of a listed threatened species or listed threatened ecological community within the meaning of that Act; (e) the presence of a listed migratory species within the meaning of that Act; (f) any values and sensitivities that exist in, or in relation to, part or all of: <ul style="list-style-type: none"> (i) a Commonwealth marine area within the meaning of that Act; or (ii) Commonwealth land within the meaning of that Act. 		
<p>Regulation 34(g): (i) the titleholder has carried out the consultations required by Section 25 (ii) the measures (if any) that the titleholder has adopted, or proposes to adopt, because of the consultations are appropriate</p>	<p>Regulation 25: Consultation with relevant authorities, persons and organisations, etc. Regulation 24(b): A report on all consultations between the titleholder and any relevant person</p>	<p>Consultation in preparation of the EP</p>	<p>Appendix F</p>
<p>Regulation 34(h): complies with the Act and the regulations</p>	<p>Regulation 23: Details of the Titleholder and liaison person Regulation 24(c): Details of all reportable incidents in relation to the proposed activity.</p>	<p>All contents of the EP must comply with the Act and the regulations</p>	<p>Section 1.6 Section 7.10</p>

1.6 Description of the Titleholder

Woodside Energy (Australia) Pty Ltd is a Titleholder under the Environment Regulations and participant in the Joint Venture comprised of Santos WA PVG Pty Ltd and itself. The Petroleum Activities Program will be undertaken by Woodside Energy Global Pty Ltd as operator on behalf of the Joint Venture.

Woodside's mission is to deliver affordable energy solutions and superior outcomes for stakeholders by being society's trusted energy partner. Woodside's strategy is to provide the low cost, lower carbon energy our world needs. We have significant opportunities to prosper and grow. Our three pillars, oil, gas and new energy, each have a role to play in our future. Wherever Woodside works, it is committed to living its values of one team, we care, innovation, results matter, and we build and maintain trust.

Woodside's operations are characterised by strong safety and environmental performance in remote and challenging locations.

Since 1984, the company has been operating the landmark Australian project, the North West Shelf, and it remains one of the world's premier liquefied natural gas (LNG) facilities. In 2012, Woodside added the Pluto LNG Plant to its onshore operating facilities.

Woodside has an excellent track record of efficient and safe production. Woodside strives for excellence in safety and environmental performance and continues to strengthen relationships with customers, partners co-venturers, governments and communities to ensure they are a partner of choice. Further information about Woodside can be found at <http://www.woodside.com>.

1.7 Details of Titleholder and Nominated Liaison

In accordance with Regulation 23 of the Environment Regulations, details of the titleholder and liaison person and arrangements for the notification of changes are described below.

1.7.1 Titleholder

Woodside Energy (Australia) Pty Ltd
11 Mount Street
Perth, Western Australia
T: 08 9348 4000
ACN: 63 005 482 986

1.7.2 Nominated Liaison Person

Andrew Winter
Corporate Affairs Manager
11 Mount Street
Perth, Western Australia
T: 08 9348 4000
E: feedback@woodside.com

1.7.3 Arrangements for Notifying Change

If the titleholder, titleholder's nominated liaison person, or the contact details for the titleholder or the liaison person change, then NOPSEMA will be notified of the change in writing within two weeks or as soon as practicable.

1.8 Woodside / BHP Petroleum Merger

BHP Group Ltd's petroleum assets (BHP Petroleum) and Woodside announced their intention to merge in 2021, which became effective on 1 June 2022. All BHP Petroleum policies, standards, processes and procedures were included in the merger agreement and remain valid. Harmonisation of processes between BHP Petroleum and Woodside commenced planning upon the completion of the merger and will be conducted in a staged manner. The BHP Petroleum HSE Management system (herein referred to as the Woodside (PetDW) HSE Management System) will continue to be used by the Macedon operations until potential changes have been assessed.

The Titleholder name change from BHP Petroleum (Australia) Pty Ltd to Woodside Energy (Australia) Pty Ltd was made on 11 July 2022.

1.9 Woodside Management System

All Woodside controlled activities associated with the PAP will be conducted in line with:

- Woodside "Our Values"
- Woodside Environment and Biodiversity Policy (**Appendix A**)
- Woodside (PetDW) Management System
- Woodside (PetDW) Health, Safety and Environment (HSE) Standard
- any specific commitments laid out in this EP.

All Woodside sites must maintain up-to-date practices that adhere to the requirements contained in the Woodside (PetDW) HSE Management System and Standard. Activity-specific environmental management measures specific to the PAP are implemented through this EP.

1.9.1 Environment and Biodiversity Policy

In accordance with Regulation 24(a) of the Environment Regulations, Woodside's Environment and Biodiversity Policy is provided in **Appendix A** of this EP.

1.10 Description of Relevant Requirements

In accordance with Regulation 21(4) of the Environment Regulations, a description of requirements, including legislative requirements, that apply to the activity and are relevant to the management of risks and impacts of the PAP are detailed in **Appendix B**. As this EP covers activities in Commonwealth waters only, it will not be assessed under the *Environmental Protection Act 1986* (WA).

1.10.1 Offshore Petroleum and Greenhouse Gas Storage Act 2006

The Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGGS Act) controls exploration and production activities beyond three nautical miles (nm) of the mainland (and islands) to the outer extent of the Australian Exclusive Economic Zone at 200 nm.

The relevant requirements in Section 572 of the OPGGS Act are detailed in **Table 1-3**.

Table 1-3: Relevant requirements of the OPGGS Act 2006

Section Number	Relevant Requirement	Relevant Section of the EP
Section 572 – Maintenance and removal of property etc. by titleholder		
2	A titleholder must maintain in good condition and repair all structures that are, and all equipment and other property that is: (a) in the title area; and (b) used in connection with the operations authorised by the permit, lease, licence or authority.	Section 3.6.5
3	A titleholder must remove from the title area all structures that are, and all equipment and other property that is, neither used nor to be used in connection with the operations: (a) in the title area; and (b) used in connection with the operations authorised by the permit, lease, licence or authority.	Section 3.5 and 6.9

Under the OPGGS Act, the Environment Regulations apply to petroleum activities in Commonwealth Waters and are administered by NOPSEMA. The objective of the Environment Regulations is to ensure petroleum activities are carried out in a manner:

- consistent with the principles of ecological sustainable development
- 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 of an acceptable level.

1.10.2 Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

One of the objectives of the EPBC Act is to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places in Australia. These are defined under Part 3 of the Act as “Matters of National Environmental Significance” (MNES). The EPBC Act sets a regime which aims to ensure actions taken on (or impacting upon) Commonwealth land or waters are consistent with the principles of ecological sustainable development. When a person proposes to take an action that they believe may need approval under the EPBC Act, they must refer the proposal to the Commonwealth Minister for Environment.

In relation to offshore petroleum activities in Commonwealth waters, in accordance with the “Streamlining Offshore Petroleum Approvals Program” (the Program), requirements under the EPBC Act are now administered by NOPSEMA, commencing February 2014. The Program requires any offshore petroleum activities, authorised by the OPGGS Act to be conducted in accordance with an accepted EP. The definition of ‘environment’ in the Program covers all matters protected under Part 3 of the EPBC Act.

1.10.2.1 Offshore Project Approval

The proposed Macedon Gas Development was referred under the EPBC Act on 19 November 2008 (Referral No 2008/4605) and deemed to not be a controlled action, if undertaken in a particular

manner, on 7 December 2009. The points of the decision letter that are applicable to ensuring that the Petroleum Activities Program continues to not be a controlled action are listed in **Table 1-4**.

The referral states that the development will comprise up to four subsea production wells with a potential further three infill wells or local tie-back wells drilled during operations. The wells will be tied back to a subsea manifold and connected to the main wet gas pipeline. The proposed additional new well falls within this approved development description. To date there are currently four production wells.

The notional Macedon development area is a polygon covering the gas field as defined in EPBC Referral No 2008/4605. The proposed additional new well falls within this area. The proposed additional new well is therefore within the scope of the EPBC referral approved by the Minister for the Environment and an OPP is not required. The drilling, installation, tie-back and cold commissioning activities of the proposed additional new well if developed, would be the subject of separate EP(s). Well start-up and hot commissioning activities for the proposed additional new well are included within this EP, to enable those activities to be carried out under this EP if separate EP(s) for drilling, installation, tie-back and cold commissioning activities are approved, and once those activities have been carried out under the separate EP(s).

Table 1-4: Particular Manners in which proposed action must be taken (EPBC 2008/4605) relevant to the Petroleum Activities Program

Relevant Point	Relevant Section of EP
Refuelling of primary vessels ¹ and support vessels ² must only be undertaken during daylight hours.	NA – Refuelling is proposed to occur at port facilities only
Support vessels ² must not be refuelled within 12 nautical miles of Ningaloo Marine Park (as defined by outer Commonwealth boundary), the north and south Muiron islands and Serrurier Island (as defined by 0 metres lowest astronomical tide, LAT), unless refuelling is to occur in a port or harbour for example Exmouth Boat Harbour.	NA – Refuelling is proposed to occur at port facilities only
During night time operations external lighting of all vessels must be minimised to that required for safety of navigation and safety of deck operations.	Section 6.6.7 C 8.1
To minimise impacts to the Commonwealth marine area from introduced marine pest species, all primary and support vessels must, as a minimum, adhere to the management measures set out within the Non-Indigenous Marine Species Management Plan for the Pyrenees Oil Field Development (EPBC 2005/2034) as approved by the Ministers delegate on 22 October 2008.	Section 6.7.8 C 11.2

1. Primary Vessels are defined in the referral to include anchored or slow-moving vessels that are performing infrastructure installation, maintenance or repair tasks and are required at the infrastructure site for extended periods. Such vessels include trenching barge, drill rig and vessel with wireline capability, heavy lift vessel, multi-support vessel, pipelay barge, anchor handlers and self-loading rock dump vessels.
2. Support Vessels are defined in the referral to include vessels that intermittently provide a service to Primary Vessels and are not required to be stationed at the infrastructure site for extended periods such as supply vessels and tugs.

1.10.2.2 Recovery Plans and Threat Abatement Plans

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 Programs. Relevant

recovery plans or threat abatement plans relevant to the scope of this EP have been identified as described in **Section 2.8** and assessed in **Section 6.8**.

1.10.2.3 Australian Marine Parks

Under the EPBC Act, Australian Marine Parks (AMPs), formerly known as Commonwealth Marine Reserves, are recognised for conserving marine habitats and the species that live and rely on these habitats. The Director of National Parks (DNP) is responsible for managing AMPs (supported by Parks Australia) and is required to publish management plans for them. Other parts of the Commonwealth Government must not perform functions or exercise powers in relation to these parks that are inconsistent with management plans (s362 of the EPBC Act). Relevant AMPs are listed in **Section 4.8** and described in the Master Existing Environment. The North-west Marine Parks Network Management Plan describes the requirements for management.

1.10.2.4 World Heritage Properties

Australian World Heritage management principles are prescribed in Schedule 5 of the EPBC Regulations 2000. Management principles that are considered relevant to the scope of this EP are provided in **Table 1-5**.

Table 1-5: Relevant Management Principles under Schedule 5—Australian World Heritage management principles of the EPBC Act.

Number	Principle	Relevant Section of the EP
3	<p>Environmental impact assessment and approval</p> <p>3.01 This principle applies to the assessment of an action that is likely to have a significant impact on the World Heritage values of a property (whether the action is to occur inside the property or not).</p> <p>3.02 Before the action is taken, the likely impact of the action on the World Heritage values of the property should be assessed under a statutory environmental impact assessment and approval process.</p> <p>3.03 The assessment process should:</p> <ul style="list-style-type: none"> • identify the World Heritage values of the property that are likely to be affected by the action; and • examine how the World Heritage values of the property might be affected; and • provide for adequate opportunity for public consultation. <p>3.04 An action should not be approved if it would be inconsistent with the protection, conservation, presentation or transmission to future generations of the World Heritage values of the property.</p> <p>3.05 Approval of the action should be subject to conditions that are necessary to ensure protection, conservation, presentation or transmission to future generations of the World Heritage values of the property.</p> <p>3.06 The action should be monitored by the authority responsible for giving the approval (or another appropriate authority) and, if necessary, enforcement action should be taken to ensure compliance with the conditions of the approval.</p>	<p>3.01 and 3.02: Assessment of significant impact on World Heritage values is included in Section 5. Principles are met by the submitted EP.</p> <p>3.03 (a) and (b): World Heritage values are identified in Section 4 and considered in the assessment of impacts and risks for the Petroleum Activities Program in Section 5.</p> <p>3.03 (c): Relevant persons consultation and feedback received in relation to impacts and risks to the Ningaloo World Heritage Property are outlined in Appendix F.</p> <p>3.04, 3.05 and 3.06: Principles are considered to be met by the acceptance of this EP.</p>

Note that Section 1 – General Principles and Section 2 – Management Planning of Schedule 5 are not considered relevant to the scope of this EP and, therefore, have not been included.

2. ENVIRONMENT PLAN PROCESS

2.1 Overview

This section outlines the process taken by Woodside to prepare this EP, once the activity was defined as a petroleum activity. The process describes the activity, the existing environment, followed by the environmental risk management methodology used to identify, analyse and evaluate risks to meet ALARP levels and acceptability requirements, and develop EPOs and EPSs. This section also describes Woodside's risk management methodologies as applied to implementation strategies for the activity.

Regulation 21(5) of the Environment Regulations requires the EP to include details of the environmental impacts and risks for the Petroleum Activities Program, and an evaluation of all the impacts and risks, appropriate to the nature and scale of each impact and risk. The objective of the risk assessment process described in this section is to identify risks and associated impacts of an activity, so they can be assessed, and appropriate control measures applied to eliminate, control or mitigate the impact/risk to ALARP, and to determine if the impact or risk level is acceptable.

Environmental impacts and risks include those directly and indirectly associated with the PAP, and include potential emergency and accidental events:

- **Planned activities** have the inherent potential to cause environmental impacts.
- **Environmental risks** are unplanned events with the potential for environmental impact (termed risk 'consequence').

In this section, potential impacts from planned activities are termed 'impacts', and 'risks' are associated with unplanned events with the potential for environmental impact (should the risk be realised), with such impacts termed potential 'consequences'.

2.2 Environmental Risk Management Methodology

2.2.1 Woodside PetDW Risk Management Process

Woodside recognises that risk is inherent to its business and that effective management of risk is vital to delivering on company objectives, success and continued growth. Woodside is committed to managing risk proactively and effectively. The objective of Woodside's PetDW risk management system is to provide a consistent process for recognising and managing risks across Woodside's PetDW business. Achieving this objective includes ensuring risks consider impacts across these key areas of exposure: health and safety, environment, finance, reputation and brand, legal and compliance, and social and cultural.

The environmental risk management methodology used in this EP is based on Woodside's PetDW Risk Management Procedure. This procedure aligns to industry standards, such as International Organization for Standardization (ISO) 31000.

The risk management methodology provides a framework to demonstrate that risks and impacts are continually identified, reduced to ALARP and assessed to be at an acceptable level, as required by the Environment Regulations. A description of each step and how it is applied to the scopes of this activity is provided in **Section 2.2** to **Section 5**.

2.2.2 Impact Assessment Process

To support effective environmental risk assessment, the impact assessment process illustrated in **Figure 2-1** is used. This provides the steps undertaken to meet the required environment, health and social standards by ensuring impact assessments are undertaken appropriate to the nature and scale of the activity, the regulatory context, the receiving environment, interests, concerns and rights of stakeholders, and the applicable framework of standards and practices.

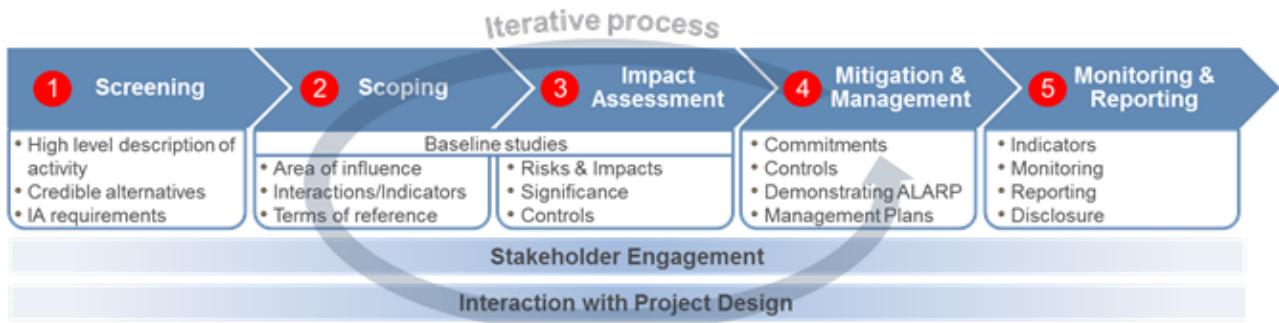


Figure 2-1: Impact assessment process

2.3 Environment Plan Development Process

The EP development process is illustrated in **Figure 2-2**. Each element of this process is discussed further in **Section 2.5** to **Section 2.10**.

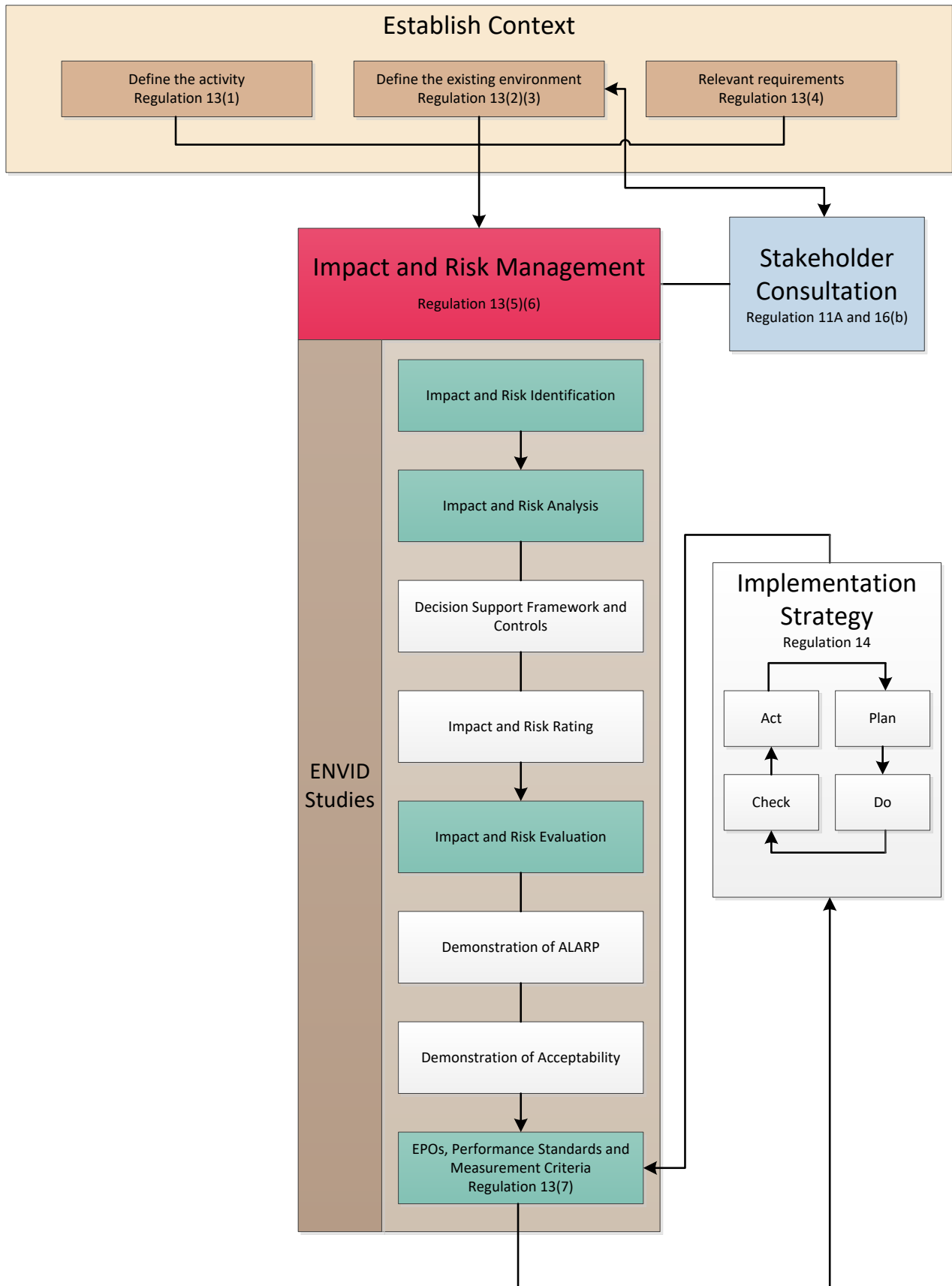


Figure 2-2: Environment Plan Development Process

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2.4 Establish the Context

2.4.1 Define the Activity

This first stage involves evaluating whether the activity meets the definition of a 'petroleum activity' as defined in the Environment Regulations. The activity is described in relation to:

- the location
- what is to be undertaken
- how it is planned to be undertaken, including outlining operational details of the activity and proposed timeframes.

The 'what' and 'how' are described in the context of 'environmental aspects'¹ to inform the risk and impact assessment for planned (routine and non-routine) and unplanned (accidents/incidents/emergency conditions) activities.

The activity is described in **Section 3** and is referred to as the Petroleum Activities Program (PAP).

2.4.2 Define the Existing Environment

The context of the existing environment is described and determined by considering the nature and scale of the activity (size, type, timing, duration, complexity, and intensity of the activity), as described in **Section 3**. The purpose is to describe the existing environment that may be impacted by the activity, directly or indirectly, by planned or unplanned² events.

In accordance with Regulation 56 of the Environmental Regulations the Master Existing environment, in Appendix C in the Goodwyn Alpha (GWA) Facility Operations Environment Plan (hereafter referred to as the Master Existing Environment) was provided accepted by NOPSEMA on 3 March 2022. The accepted EP is available on the NOPSEMA website: NOPSEMA EP No: 5723, ID: A825979. The purpose is to describe the existing environment that may be impacted by the activity, directly or indirectly, by planned or unplanned events.

The existing environment (**Section 4**) is structured into subsections defining the physical, biological, socio-economic and cultural attributes of the area of interest, in accordance with the definition of environment in Regulation 5 of the Environment Regulations. These subsections make particular reference to:

- The environmental, and social and cultural consequences as defined by Woodside (refer to **Table 2-3**), which address key physical and biological attributes, as well as social and cultural values of the existing environment. These consequence definitions are applied to the impact and risk analysis (refer **Section 2.2**) and rated for all planned and unplanned activities. Additional detail is provided for unplanned hydrocarbon spill risk evaluation.
- EPBC Act MNES including listed threatened species and ecological communities and listed Migratory species. Defining the spatial extent of the existing environment is guided by the nature and scale of the PAP (and associated sources of environmental risk). This considers the Operational Area and wider environment that may be affected (EMBA), as determined by the hydrocarbon spill risk assessments presented in **Section 6.7**. MNES, as defined under the EPBC Act, are addressed through Woodside's PetDW impact and risk assessment (**Section 5**).

¹ An environmental aspect is an element of the activity that can interact with the environment.

² For each source of risk, the credible worst-case scenario in conjunction with impact thresholds is used to determine the spatial extent of the EMBA. The worst-case unplanned event is considered to be an unplanned hydrocarbon release, further defined for each activity through the risk assessment process. Interpretation of stochastic oil spill modelling determines the EMBA for the release, which defines the spatial scale of the environment that may be potentially impacted by the Petroleum Activities Program and in turn provides context to the 'nature and scale' of the existing environment.

- Relevant values and sensitivities, which may include world or national heritage listed areas, listed Threatened species or ecological communities, listed Migratory species, or sensitive values.

By grouping potentially impacted environmental values by aspect (as presented in **Table 2-1**) the presentation of information about the receiving environment is standardised. This information is then consistently applied to the risk evaluation section to provide a robust approach to the overall environmental risk evaluation and its documentation in the EP.

Table 2-1: Example of the Environment Values Potentially Impacted which are Assessed within the Environment Plan

Environmental Value Potentially Impacted						
Regulations 21(2)(3)						
Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitats	Species	Socio-economic

2.4.3 Relevant Requirements

The relevant requirements in the context of legislation, other environmental approval requirements, conditions and standards that apply to the PAP are identified and reviewed and are presented in **Appendix B**.

The Woodside Environment and Biodiversity Policy is presented in **Appendix A**.

2.5 Impact and Risk Identification

Relevant environmental aspects and hazards were identified that support the process to define environmental impacts and risks associated with an activity.

The environmental impact and risk assessment presented in this EP has been informed by recent and historic hazard and environmental risk identification studies (e.g. HAZID/ENVID) and consequence modelling studies for high consequence, low probability environmental risks. Impacts, risks and potential consequences were identified based on planned and potential interaction with the activity (based on the description in **Section 3**), the existing environment (**Section 4**) and the outcomes of Woodside’s stakeholder engagement process (**Section 5**). The environmental outputs of applicable risk and impact workshops and associated studies are referred to as ENVID in this EP.

An environmental impacts and risks identification and assessment workshop was undertaken by multidisciplinary teams comprising relevant operational and environmental personnel with sufficient breadth of knowledge, training and experience to reasonably assure that risks and impacts were identified, and their potential environmental consequences assessed. Impacts and risks were identified, during the workshop, for both planned (routine and non-routine) activities and unplanned (accidents/incidents/emergency conditions) events. During this process, risks identified as not applicable (not credible) were removed from the assessment.

Impacts and risks were evaluated and tabulated for each planned activity and unplanned events respectively. Environmental impacts and risks were recorded in an environmental impacts and risk register. The output of the workshop is used to present the risk assessment and form the basis of EPOs, EPSs, and MC. This information is presented in **Section 5**, following the format presented in **Table 2-2**.

Table 2-2: Example of Layout of Identification of Risks and Impacts in Relation to Risk Sources

Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-economic	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Summary of source of impact/risk														

2.6 Impact and Risk Analysis

Risk analysis further develops the understanding of a risk by defining the impacts and assessing appropriate controls, as well as considering previous risk assessments for similar activities, relevant studies, past performance, external consultation, and the existing environment.

The key steps undertaken for each identified risk during the risk assessment were to:

- identify the Decision Type in accordance with the decision support framework
- identify appropriate control measures (preventive and mitigation) aligned with the Decision Type
- assess the risk level.

2.6.1 Decision Support Framework

To support the risk assessment process and the determination of acceptability (**Section 2.7.2**) Woodside’s PetDW environmental risk management process includes the use of a decision support framework based on principles set out in the Guidance on Risk Related Decision Making (Oil and Gas UK, 2014). This concept is integrated into the environmental impacts and risks identification and assessment workshop to determine the level of supporting evidence that may be required to draw sound conclusions regarding risk level and whether the risk is acceptable and ALARP (**Section 2.7.1**). Application of the decision support framework confirms:

- activities do not pose an unacceptable environmental risk
- appropriate focus is placed on activities where the impact or risk is anticipated to be acceptable and demonstrated to be ALARP
- appropriate effort is applied to manage risks and impacts based on the uncertainty of the risk, the complexity and risk rating (i.e. potential higher order environmental impacts are subject to further evaluation/assessment).

The framework provides appropriate tools commensurate to the level of uncertainty or novelty associated with the risk/impact (referred to as the Decision Type A, B, or C). The Decision Type is selected based on an informed discussion around the uncertainty of the risk/impact and is documented in impact and risk register worksheets.

This framework enables Woodside to appropriately understand a risk and determine if the risk or impact is acceptable and can be demonstrated to be ALARP.

2.6.1.1 Decision Type A

Decision Type A risks and impacts are well understood and established practice. They are generally recognised as good industry practice and are often embodied in legislation, codes and standards, and utilise professional judgment.

2.6.1.2 Decision Type B

Decision Type B risks and impacts typically involve greater uncertainty and complexity; and can include potential higher-order impacts/risks. These risks may deviate from established practice or have some lifecycle implications and therefore require further engineering risk assessment to support the decision and ensure that the risk is ALARP. Engineering risk assessment tools may include:

- risk-based tools such as cost-based analysis or modelling
- consequence modelling
- reliability analysis
- company values.

2.6.1.3 Decision Type C

Decision Type C risks and impacts typically have significant risks related to environmental performance. Such risks typically involve greater complexity and uncertainty therefore requiring the adoption of the precautionary approach. The risks may result in significant environmental impact, significant project risk/exposure, or may elicit negative stakeholder concerns. For these risks or impacts, in addition to Decision Type A and B tools, company and societal values need to be considered by undertaking broader internal and external consultation as part of the risk assessment process.

Risk Related Decision Making Framework

		Factor	A	B	C
		Decision Context	Type of Activity	Nothing new or unusual Represents normal business Well-understood activity Good practice well-defined	New to the organisation or geographical area Infrequent or non-standard activity Good practice not well defined or met by more than one option
Risk and Uncertainty	Risks are well understood Uncertainty is minimal		Risks amenable to assessment using well-established data and methods Some uncertainty	Significant uncertainty in risk Data or assessment methodologies unproven No consensus amongst subject matter experts	
Stakeholder Influence	No conflict with company values No partner interest No significant media interest		No conflict with company values Some partner interest Some persons may object May attract local media attention	Potential conflict with company values Significant partner interest Pressure groups likely to object Likelihood of adverse attention from national or international media	
Assessment Technique	Good Practice		Engineering Risk Assessment	Precautionary Approach	

Figure 2-3: Risk-related Decision-making Framework (Oil and Gas UK, 2014)

2.6.1.4 Decision Support Framework Tools

These framework tools are applied, as appropriate, to help identify control measures based on the Decision Type described above:

- **Legislation, Codes and Standards (LCS)** – identifies the requirements of legislation, codes and standards that are to be complied with for the activity.
- **Good Industry Practice (GP)** – identifies further engineering control standards and guidelines that may be applied by Woodside above that required to meet the LCS.
- **Professional Judgement (PJ)** – uses relevant personnel with the knowledge and experience to identify alternative controls. Woodside applies the hierarchy of control as part of the risk assessment to identify any alternative measures to control the risk.
- **Risk-based Analysis (RBA)** – assesses the results of probabilistic analyses such as modelling, quantitative risk assessment and/or cost–benefit analysis to support the selection of control measures identified during the risk assessment process.
- **Company Values (CV)** – identifies values identified in Woodside’s code of conduct, policies and the Woodside Our Values. Views, concerns and perceptions are to be considered from internal Woodside stakeholders directly affected by the planned impact or potential risk.
- **Societal Values (SV)** – identifies the views, concerns and perceptions of relevant stakeholders and addresses relevant stakeholder views, concerns and perceptions.

2.6.1.4.1 Decision Calibration

To determine that the alternatives selected and control measures applied are suitable, these tools may be used for calibration (i.e. checking) where required:

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- **LCS/Verification of Predictions** – Verification of compliance with applicable LCS and/or good industry practice.
- **Peer Review** – Independent peer review of PJs, supported by RBA, where appropriate.
- **Benchmarking** – Where appropriate, benchmarking against a similar facility or activity type or situation that has been deemed to represent acceptable risk.
- **Internal Stakeholder Consultation** – Consultation undertaken within Woodside to inform the decision and verify company values are met.
- **External Consultation** – Consultation undertaken to inform the decision and verify societal values are considered.

Where appropriate, additional calibration tools may be selected specific to the Decision Type and the activity.

2.6.2 Control Measures (Hierarchy of Controls)

Risk reduction measures are prioritised and categorised in accordance with the hierarchy of controls, where risk reduction measures at the top of the hierarchy take precedence over risk reduction measures further down:

- **Elimination** of the risk by removing the hazard.
- **Substitution** of a hazard with a less hazardous one.
- **Engineering Controls** include design measures to prevent or reduce the frequency of the risk event, or detect or control the risk event (limiting the magnitude, intensity and duration) such as:
 - Prevention: design measures that reduce the likelihood of a hazardous event occurring
 - Detection: design measures that facilitate early detection of a hazardous event
 - Control: design measures that limit the extent/escalation potential of a hazardous event
 - Mitigation: design measures that protect the environment if a hazardous event occurs
 - Response Equipment: design measures or safeguards that enable clean-up/response after a hazardous event occurs.
- **Procedures and Administration** includes management systems and work instructions used to prevent or mitigate environmental exposure to hazards.
- **Emergency Response and Contingency Planning** includes methods to enable recovery from the impact of an event (e.g. protection barriers deployed near the sensitive receptor).

2.6.3 Impact and Risk Classification

Environmental impacts and risks are assessed to determine the potential impact severity/consequence using the process shown in **Figure 2-4**. Impacts are classified in accordance with the consequence severity level (**Table 2-3**). The assigned severity level is determined after identifying the Decision Type and appropriate control measures. Risks are assessed qualitatively and/or quantitatively in terms of both likelihood and consequence severity in accordance with the risk matrix (**Figure 2-5**).

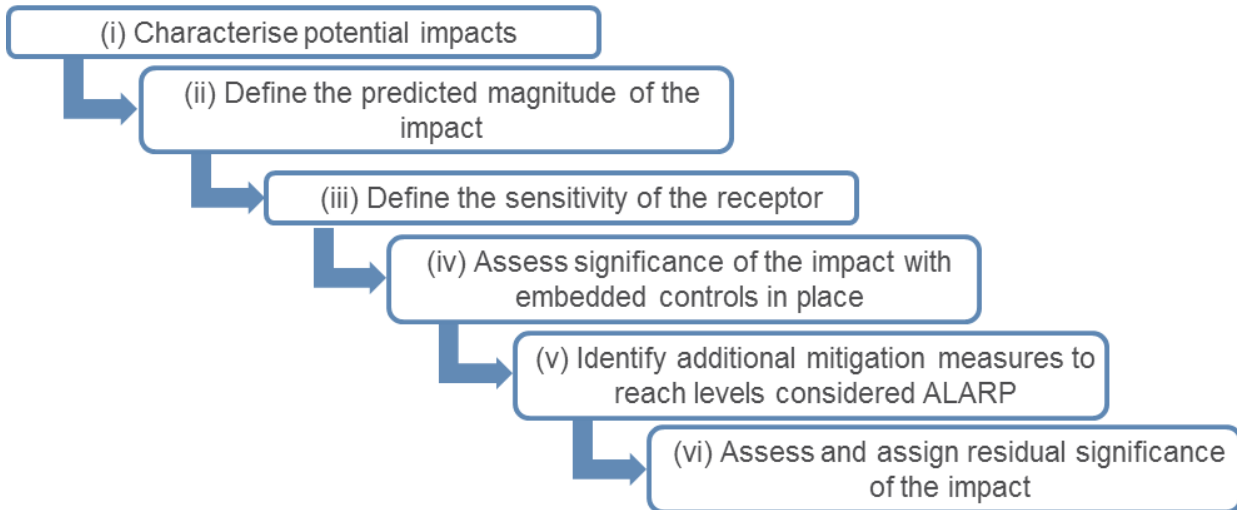


Figure 2-4: Environmental Risk and Impact Analysis

Table 2-3: Woodside PetDW Risk Matrix (Environment and Social and Cultural) Consequence Severity Descriptions, Severity Levels and Severity Factors

Environment	Social and Cultural	Severity Level	Severity Factor
Severe impact to the environment and where recovery of ecosystem function takes 10 years or more	Severe impact on community lasting more than 12 months or a substantiated human rights violation impacting 6 or more people	5 - Severe	1000
Serious impact to the environment and where recovery of ecosystem function takes between 3 years and up to 10 years	Serious impact on community lasting 6-12 months or a substantiated human rights violation impacting 1-5 people	4 - Serious	300
Substantial impact to the environment and where recovery of ecosystem function takes between 1 year and up to 3 years	Substantial impact on community lasting 2-6 months	3 - Substantial	100
Measurable but limited impact to the environment, where recovery of ecosystem functions takes less than 1 year	Measurable but limited impact on community lasting less than 1 month	2 - Measurable	30
Minor temporary impact to the environment, where the ecosystem functions recovers with little intervention	Minor temporary community impact that recovers with little intervention	1 - Minor	10

The impact and risk information, including classification and evaluation information as shown in the example (Table 2-2), are tabulated for each planned activity and unplanned event.

2.6.3.1 Risk Rating Process

The risk rating process assigns a level of risk to each risk event, measured in terms of consequence severity and likelihood. The assigned risk rating is determined with controls in place, therefore; the risk rating is determined after identifying the Decision Type and appropriate control measures, this is also called residual risk. The risk rating process considers the potential environmental consequences severity and, where applicable, the social and cultural consequences severity of the

risk. The risk ratings are assigned using the Woodside PetDW Risk Matrix (refer to **Figure 2-5**). The risk matrix delivers a risk rating, which is a score for prioritisation purposes.

The risk rating process is undertaken using the steps described in the subsections below.

2.6.3.1.1 Select the Severity Level

Determine the worst-case credible consequence severity (**Table 2-3**) associated with the selected event, assuming all controls (preventive and mitigative) are absent or have failed. If more than one potential consequence severity applies, select the highest severity consequence level.

2.6.3.1.2 Select the Likelihood Level

Determine the description that best fits the chance of the selected consequence severity occurring, assuming reasonable effectiveness of the prevention and mitigation controls (**Table 2-4**).

Table 2-4: Woodside PetDW Risk Matrix Likelihood Definitions Levels

Description	Frequency	Likelihood Factor
Highly Likely	Likely to occur within a 1 year period.	3
Likely	Likely to occur within a 1 - 5 year period.	1
Possible	Likely to occur within a 5 - 20 year period.	0.3
Unlikely	Likely to occur within a 20 - 50 year period.	0.1
Highly Unlikely	Not likely to occur within a 50 year period.	0.03

2.6.3.1.3 Calculate the Risk Rating

The risk rating is derived from the consequence severity factor and likelihood factors above, in accordance with the Woodside PetDW Risk Matrix shown in **Figure 2-5**. Risk ratings in the green zone are considered “Tolerable” and require no further treatment to reach ALARP. Risk ratings in the red zone are considered higher order risks which are considered “Intolerable” and must be considered further.

A likelihood and risk rating are only applied to environmental risks, not environmental impacts from planned activities.

This risk rating is used as an input into the risk evaluation process and ultimately for prioritising further risk reduction measures. Once each risk is treated to ALARP, the risk rating articulates the ALARP baseline risk as an output of the ENVID studies.

Likelihood	Severity Level				
	1	2	3	4	5
Highly Likely	30	90	300	900	3000
Likely	10	30	100	300	1000
Possible	3	9	30	90	300
Unlikely	1	3	10	30	100
Highly Unlikely	0.3	0.9	3	9	30

Figure 2-5 : Woodside PetDW Risk Matrix – Risk Level

2.7 Impact and Risk Evaluation

Environmental impacts and risks cover a wider range of issues, differing species, persistence, reversibility, resilience, cumulative effects, and variability in severity than safety risks. Determining the degree of environmental risk, and the corresponding threshold for whether a risk/impact has been reduced to ALARP and is acceptable, is evaluated to a level appropriate to the nature and scale of each impact or risk. Evaluation includes considering the:

- Decision Type
- principles of ecological sustainable development – as defined under the EPBC Act
- internal context – ensuring the proposed controls and risk level are consistent with Woodside policies, procedures and standards (**Section 6.9** and **Appendix A**)
- external context – the environment consequence (**Section 5**) and stakeholder acceptability (**Section 5**)
- other requirements – ensuring the proposed controls and risk level are consistent with national and international standards, laws and policies.

In accordance with Environment Regulation 34(a), 34(b), 34(c) and 21(5)(b), Woodside applies the process described in the subsections below to demonstrate ALARP and acceptability for environmental impacts and risks, appropriate to the nature and scale of each impact or risk.

2.7.1 Demonstration of ALARP

The descriptions in **Table 2-5** articulate how Woodside demonstrates that different risks, impacts and Decision Types, identified within the EP, are ALARP.

Table 2-5: Summary of Woodside’s PetDW Criteria for ALARP Demonstration

Decision Type	Demonstration of ALARP Description
Decision Type A	<p>Demonstrating ALARP for lower-order (‘Type A’) impacts or risks</p> <ul style="list-style-type: none"> • Identified regulatory, corporate and industry good practice controls are implemented, Woodside considers the impact or risk to be managed to ALARP and no further detailed engineering evaluation of controls is required. • The application of feasible and readily implementable alternate, additional or improved controls may be adopted opportunistically when demonstrated to further reduce potential environmental impacts or risks.
Decision Type B	<p>Demonstrating ALARP for higher-order (‘Type B’) impacts or risks</p> <ul style="list-style-type: none"> • In addition to relevant regulatory, corporate and industry good practice controls being implemented, alternate, additional or improved controls should be proposed and evaluated

	<p>according to their feasibility, reasonableness and practicability to implement to further reduce the potential for impacts and risks associated with the activities</p> <ul style="list-style-type: none"> • Woodside applies a cost and benefit analysis when evaluating additional controls and applies those that are both feasible and where the cost (safety, time, effort and financial) are not grossly disproportionate to the potential reduction in environmental impact or risk afforded by the control.
Decision Type C	<p>Demonstrating ALARP for highest-order ('Type C') impacts or risks</p> <ul style="list-style-type: none"> • Alternate, additional, or improved controls over and above relevant regulatory, corporate and industry good practice must be proposed and evaluated based upon a precautionary approach • Woodside ensures all feasible controls that have the potential to reduce environmental impacts and risks are implemented, when safe to do so and irrespective of the additional effort, time or financial cost associated with implementing the control.

2.7.2 Demonstration of Acceptability

The descriptions in **Table 2-6** articulate how Woodside demonstrates how different risks, impacts and Decision Types identified within the EP are Acceptable.

Table 2-6: Summary of Woodside’s PetDW Criteria for Acceptability

Decision Type	Demonstration of Acceptability
Decision Type A	Woodside demonstrates these risks, impacts and Decision Types are 'Broadly Acceptable' if they meet legislative requirements, industry codes and standards, applicable company requirements and industry guidelines. Further effort towards risk reduction (beyond using opportunistic measures) is not reasonably practicable without sacrifices that are grossly disproportionate to the benefit gained.
Decision Type B	<p>Woodside demonstrates these higher order Risks, Impacts and Decision Types are 'Acceptable if ALARP' if it can be demonstrated using good industry practice and risk based analysis, if legislative requirements are met and societal concerns are accounted for and the alternative control measures are grossly disproportionate to the benefit gained.</p> <p>In undertaking this process for Moderate and High risks, Woodside evaluates:</p> <ul style="list-style-type: none"> • the Principles of ecological sustainable development as defined under the EPBC Act • the internal context – the proposed controls and consequence/risk level are consistent with Woodside policies, PetDW procedures and standards • the external context – consideration of the environment consequence and stakeholder acceptability are considered • other requirements – the proposed controls and consequence/risk level are consistent with national and international industry standards, laws and policies and consideration of applicable plans for management and conservation advices, conventions and significant impact guidelines (e.g. MNES).
Decision Type C	<p>When an impact or risk has been evaluated as 'highest-order', the potential environmental impact or risk can only be deemed acceptable once the criteria for 'Type B' demonstration of acceptability detailed above has been met and:</p> <ul style="list-style-type: none"> • any alternate, additional or improved controls adopted via implementing a precautionary approach (consistent with the 'Precautionary Principle' as defined within Section 3A of the EPBC Act), can demonstrate residual impacts have been lowered, such that a severity level of '4' becomes 'unlikely' or the severity level of '5' becomes 'highly unlikely' based upon the Woodside PetDW Risk Matrix.

2.8 Recovery Plan and Threat Abatement Plan Assessment

To support the demonstration of acceptability, a separate assessment is undertaken to demonstrate that the EP is not inconsistent with any relevant recovery plans or threat abatement plans (refer **Section 1.10.2.2**). The steps in this process are:

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- Identify relevant listed threatened species and ecological communities (**Section 4.6**).
- Identify relevant recovery plans and threat abatement plans (**Section 6.8**).
- List all objectives and (where relevant) the action areas of these plans, and assess whether these objectives/action areas apply to government, the Titleholder, and the Petroleum Activities Program (**Section 6.8**).
- For those objectives/action areas applicable to the Petroleum Activities Program, identify the relevant actions of each plan, and evaluate whether impacts and risks resulting from the activity are clearly not inconsistent with that action (**Section 6.8**).

2.9 Environmental Performance Outcomes, Environmental Performance Standards, and Measurement Criteria

EPOs, EPSs and MC are defined to address the potential environmental impacts and risks. These are explored in **Section 5**.

2.10 Implement, Monitor, Review and Reporting

An implementation strategy for the PAP describes the specific measures and arrangements to be implemented for the duration of the program. The strategy is based on the principles of Australian Standard/New Zealand Standard (AS/NZS) ISO 14001 Environmental Management Systems, and demonstrates:

- control measures are effective in reducing the environmental impacts and risks of the PAP to ALARP and Acceptable levels
- EPOs and EPSs set out in the EP are met through monitoring, recording, auditing, managing non-conformance, and reviewing
- all environmental impacts and risks of the PAP are periodically reviewed in accordance with Woodside's risk management procedures
- roles and responsibilities are clearly defined, and personnel are competent and appropriately trained to implement the requirements set out in this EP, including in emergencies or potential emergencies
- arrangements are in place for oil pollution emergencies, to respond to and monitor impacts
- environmental reporting requirements are met, including 'reportable incidents'
- appropriate consultation is undertaken throughout the activity.

The implementation strategy is presented in **Section 6.9**.

3. DESCRIPTION OF THE ACTIVITY

3.1 Overview

This section has been prepared in accordance with Regulation 21(1) of the Environment Regulations and describes the activities to be undertaken as part of the Petroleum Activities Program under this EP. It includes the location of the activity, general details of the facility's layout, the operational details of the activity, and additional information relevant to consideration of environmental risks and impacts.

3.2 Petroleum Activities Program Overview

The operation of the Macedon field production system involves producing natural gas via subsea wells and associated subsea field infrastructure, then transporting the wet gas to an onshore processing plant via a subsea pipeline. It also includes the management of two exploration wells with wellheads that have been plugged and suspended. Development of an additional (new) gas production well from an adjacent reservoir (Muiron) may occur under this EP. Drilling and installation of additional infrastructure would be covered under a separate future EP, however production and IMMR activities for routine and unplanned activities associated with production from the well are included in the scope of this EP.

An overview of the Petroleum Activities Program is provided in **Table 3-1**.

Table 3-1: Petroleum Activities Program overview

Item	Description
Production licence	WA-42-L
Pipeline licence	WA-23-PL
End of field life (EOFL)	Approximately 2033
Water depth	180 m – 60 m
Wells	<ul style="list-style-type: none"> Four gas production wells A future subsea production well¹ Two exploration wells with wellheads that have been plugged and suspended
Subsea infrastructure	<ul style="list-style-type: none"> Four xmas trees Four pipeline end terminations (PLETs) Macedon pipeline end manifold (PLEM) Macedon pipeline (Commonwealth waters component only) Umbilical (Commonwealth waters component only) Equipment associated with the operation of a future subsea production well¹ Associated subsea infrastructure, such as rigid jumpers and infield flowlines.
Vessels	Vessels required for IMMR activities. These may include but are not limited to: <ul style="list-style-type: none"> Subsea intervention vessels, and Subsea support vessels
Key activities	<ul style="list-style-type: none"> Routine production of gas from subsea wells (current and future¹) Routine and non-routine IMMR of subsea infrastructure Transportation of wet gas from the Macedon gas field to the Macedon Gas Plant Management of exploration wells with wellheads that have been plugged and suspended

¹This EP captures the potential to produce gas from a new well that may be drilled and tied back to existing Macedon subsea infrastructure within the life of this EP. The drilling, installation and tie-back of a new well would be the subject of a separate future EP. This EP only captures the operation of the well after it has been commissioned.

3.3 Location

The Macedon subsea wells are situated within production licence WA-42-L, located on the North West Shelf in Commonwealth waters ranging from 120 m to 180 m depth, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia (WA) (**Figure 3-1**).

The Macedon wet gas pipeline connects to the subsea wells via the Macedon manifold. The pipeline traverses Commonwealth and WA State waters, as well as onshore and ends at the onshore Macedon Gas Plant. Only the portion of the pipeline that is within Commonwealth waters (WA-23-PL) is within the scope of this EP. The water depths of the pipeline in Commonwealth waters range from approximately 166 m to 60 m.

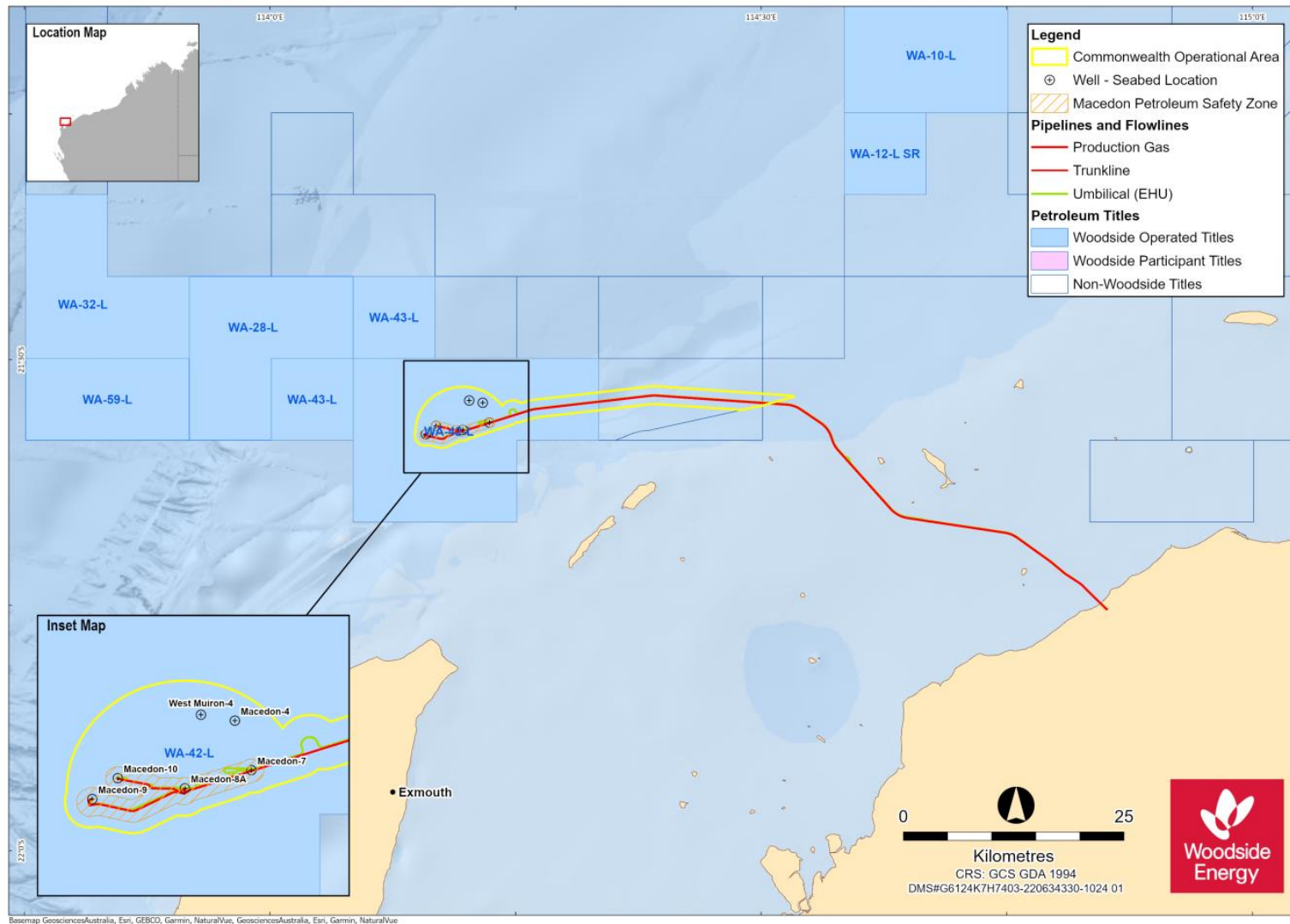


Figure 3-1: Macedon subsea infrastructure and Operational Area

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3.4 Operational Area

The Operational Area defines the spatial boundary of the PAP, as described, risk assessed and managed by the EP, including vessel related petroleum activities within the Operational Area. The area includes:

- Existing Macedon subsea infrastructure (including the Commonwealth waters portion of the Macedon pipeline) and an area encompassing 1000 m around the infrastructure
- Two exploration wells with wellheads and an area of 500 m around each well
- An area encompassing 5000 m west, north and east of the Macedon manifold to allow for the proposed location of a new subsea well, including a connecting flowline to the existing Macedon manifold.

Vessel-related activities within the Operational Area will comply with this EP. Vessels supporting the Petroleum Activities Program operating outside of the Operational Area (e.g. transiting to and from port) are subject to applicable maritime regulations and other requirements which are not managed under this EP.

The Macedon field production system is marked on nautical maps and the wells and subsea infrastructure are surrounded by a 500-metre Petroleum Safety Zone (PSZ) (**Figure 3-1**).

3.5 Timing

The Macedon field production system commenced production in 2013 and operates 24 hours a day, 365 days a year.

The end of life of the Macedon field is approximately 2033. Tie-back opportunities are continuously being reviewed for Woodside's offshore facilities, which have the potential to extend the life of the Macedon field production system. One opportunity has been identified, with a future well potentially being drilled and tied back to the existing infrastructure within the life of this EP. This may extend the end of life of the Macedon field.

Routine and non-routine IMMR activities will occur at any time throughout the life of this EP.

Any future decommissioning, well plug and abandonment, drilling, installation, tie-back or cold commissioning activities will be the subject of future, separate EPs. This EP covers well start-up and hot commissioning of the potential new well, to allow those activities to be carried out for the potential new well under this EP, if separate EP(s) are approved for drilling, installation, tie-back and cold commissioning of the potential new well, and once those activities have been carried out under the separate EP(s).

3.6 Field Layout and Description

3.6.1 Overview

The Macedon field production system infrastructure comprises two main components:

- production wells (four existing and one future)
- subsea infrastructure (associated with existing and future production wells).

The Macedon field production system equipment lies in a forked arrangement, along a broadly east-west alignment spanning approximately 7 km in length. The gas pipeline stretches approximately 35 km from the Macedon manifold to the Commonwealth-State waters boundary.

3.6.2 Production Wells

The four existing subsea production wells located within WA-42-L are in water depths ranging between 160 m and 180 m. The future planned well will be drilled and installed under a separate EP but is planned to be located within 5000 m of the Macedon manifold (within the Operational Area of this EP) and will be operated under this EP. Details of the production wells covered by this EP are provided in **Table 3-2**.

The potential new well would be located within 5000 m of the existing Macedon manifold and include production of gas into the existing production system via a flowline to connect the well to the existing Macedon manifold. The gas composition from the new well is considered comparable with the existing wet gas production system and onshore plant design and aligns with the existing well composition data, with data indicating no liquid hydrocarbon present.

Table 3-2: Status of production wells¹

Well	Block	Status	Lat / E	Long / N	Depth (m)
Macedon-7	WA-42-L	Production	-21° 33' 50.797"	114° 13' 24.173"	160
			E: 212444	N: 7612856	
Macedon-8A	WA-42-L	Production	-21° 34' 17.460"	114° 11' 47.008"	169
			E: 209662	N: 7611985	
Macedon-9	WA-42-L	Production	-21° 34' 33.191"	114° 09' 31.101"	179
			E: 205759	N: 7611430	
Macedon-10	WA-42-L	Production	-21° 34' 02.297"	114° 10' 08.567"	179
			E: 206820	N: 7612401	
Future well	WA-42-L	Future Production	Within 5000 m of west, north or east of the Macedon manifold.		

Notes:

1. Correct at the time of EP submission.

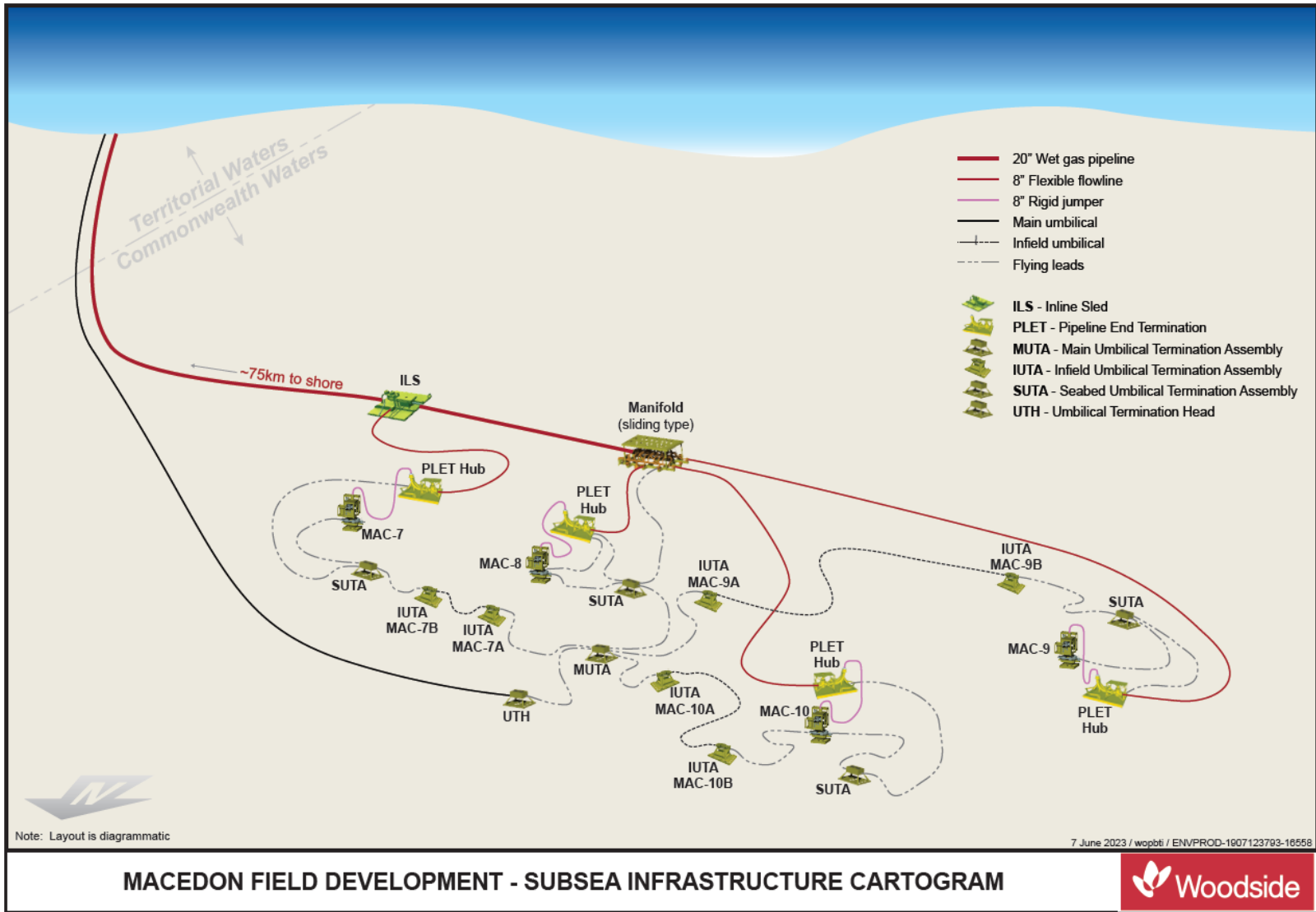


Figure 3-2: Macedon field production system subsea infrastructure

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3.6.3 Subsea Infrastructure

Subsea infrastructure is defined in this EP as all of the equipment associated with Macedon gas production in WA-42-L and WA-23-PL, including infrastructure that may be installed in the future to allow for production from an additional well (which will be drilled and installed under a separate EP). The inventory of subsea infrastructure within the scope of this EP is detailed in **Table 3-3**, **Table 3-4** and **Table 3-5**.

The four existing subsea wells with xmas trees are each connected to a pipeline end termination assembly (PLET) which in turn is connected via an 8" (internal diameter [ID]) flexible pipe to a pipeline end manifold (PLEM), (also referred to as the Macedon Manifold). Raw gas from each of the wells is produced and fed to the Macedon manifold. The Macedon manifold is connected to the Macedon pipeline. This is a 20" diameter pipeline that carries the raw gas to shore for processing at the Macedon Gas Plant.

Power, control and chemical injection is provided to the wells by a subsea electro-hydraulic umbilical supplied from shore and managed via the Central Control Room at the Macedon Gas Plant. The main umbilical terminates at the umbilical termination hub (UTH) and is distributed to the wells via infield umbilical's connected via a main umbilical termination assembly (MUTA), infield umbilical termination assemblies (IUTAs) and seabed umbilical termination assemblies (SUTAs) (**Figure 3-2**).

Table 3-3: Approximate locations and water depths of xmas tress, PLETs, the PLEM and Inline Structures

Infrastructure	Easting	Northing	Depth (m)	Note
Mac-7 xmas tree	E: 212444	N: 7612856	160	-
Mac-7 PLET	E: 212433	N: 7612841	161	-
Mac-8A xmas tree	E: 209662	N: 7611985	169	-
Mac-8A PLET	E: 209676	N: 7611973	168	-
Mac-9 xmas tree	E: 205759	N: 7611430	179	-
Mac-9 PLET	E: 205748	N: 7611445	180	-
Mac-10 xmas tree	E: 206820	N: 7612401	179	-
Mac-10 PLET	E: 206811	N: 7612384	181	-
Macedon PLEM	E: 209677	N: 7611838	166	Location referred to as KP0
Inline Structure (ILS)	E: 212484	N: 7612832	160	-

Table 3-4: Approximate start and end coordinates as well as diameters and lengths of Macedon umbilicals and pipeline

Umbilical and Umbilical Termination Assemblies	Start	End	Outside Diameter (OD) (mm)	Length (m)
Main umbilical from State/Commonwealth waters boundary to UTH	E: 291047 N: 7595440	E: 209665 N: 7612008	115	40,900
Mac-7 IUTA-A to Mac-7 IUTA-B	E: 212428 N: 7612871	E: 209674 N: 7611996	115	3,020
Mac-9 IUTA-A to Mac-9 IUTA-B	E: 209625 N: 7611983	E: 205742 N: 7611409	115	4,480

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Mac-10 IUTA-A to Mac-10 IUTA-B	E: 209622 N: 7612009	E: 206836 N: 7612415	115	2,950
Pipeline	Start	End	OD (mm)	Length (m)
State/Commonwealth waters boundary to Macedon manifold	E: 209687 N: 7611838	E: 209665 N: 7612008	508	40,900

Table 3-5: Outside Diameter (OD), Inside Diameter (ID), length and material type for Macedon flowlines and pipeline

Flowlines and Pipeline	OD (mm)	ID (mm)	Length (m)	Material
Mac-7 PLET to ILS	266.5	203.2	69	PA-11 barrier, HDPE sheath, PP tape layers, steel wires
Mac-8 PLET to PLEM	266.5	203.2	169	
Mac-9 to PLEM	266.5	203.2	4,727	
Mac-10 to PLEM	266.5	203.2	3,101	
State/Commonwealth waters boundary to Macedon manifold	508	476.2	40,900	steel

The Macedon subsea infrastructure has been designed, fabricated and installed in accordance with best practice and international standards. The pipelines, flowlines and wells are marked on nautical charts. Decommissioning planning for the infrastructure is described in **Section 7.3**.

3.6.4 Exploration Wells with Wellheads

There are two exploration wells with wellheads within block WA-42-L as described in **Table 3-6**. These two wells are not tied back to the Macedon field production system, but they are managed under the NOPSEMA accepted Macedon Well Operations Management Plans (WOMP).

Table 3-6: Status of non-producing wells in the Macedon field (WA-42-L)

Well	Type	Status	Wellhead Status	Lat / E	Long / N	Depth (m)	Relevant WOMP
Macedon 4	Appraisal	Plugged & Suspended	Wellhead in situ	21° 32' 38.114" E: 211713	114° 13' 00.140" N: 7615081	179	Macedon WOMP MACPN-SO-0022
West Muiron 4	Exploration	Plugged & Suspended	Wellhead in situ	21° 32' 29.713" E: 210281	114° 12' 10.561" N: 7615313	183	Macedon WOMP MACPN-SO-0022

The two wellheads are being inspected under this EP and in accordance with the WOMP, based on the assessed risk for the well. More information on planned inspection activities is provided in **Section 3.6.5**.

Decommissioning planning for these two Exploration wells Temporarily Abandoned (ETA wells) is described in **Section 7.3**.

3.6.5 New Production Well Start-up

The start-up activities associated with the new production well and associated subsea infrastructure may be planned to commenced within the next 5 years of operations. Activities for cold

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commissioning for the new production well would be covered under a future drilling and subsea installation EP. It is assumed that the new production well will have been drilled, completed and suspended (cold commissioned) as part of this separate EP.

Suspension of the well would be with either solids-free fluid (brine) or a combination of brine and diesel in the well bore which is used to protect the integrity of the infrastructure. These fluids are to be cleaned-up via either the MODU (as part of the proposed separate drilling and installation EP for the new well) or unloaded to host (Macedon Gas Plant) for start-up of production (hot commissioning) via the new flowline connecting the well and the existing Macedon manifold under this EP. It is estimated that a new production well clean-up will take approximately six days to complete.

No fluids or gas are planned to be discharged to the marine environment during the hot commissioning phase as part of the new well start-up under this EP.

3.7 Production Chemicals

Chemicals are used in the Macedon field such as corrosion inhibitor for prevention of corrosion in the pipeline or scale removal chemicals used to facilitate intervention work. These may originate from the Macedon Gas Plant or from a chemical package on a support vessel.

Continuous use chemicals are those that are typically supplied to the Macedon field production system via an umbilical from the Macedon Gas Plant and continuously added into the process. These may include:

- Methanol – used infrequently as a hydrate inhibitor.
- Corrosion inhibitor – used for the prevention of corrosion in the pipeline.
- Subsea control fluid (Castrol Transaqua HT2) – used in the subsea control system. The subsea control system is an open-loop system that releases the water-based control fluid by design during valve functioning under steady state operations (less than 1 litre released per valve actuation).
- Subsea control modules, control distribution units and electrical flying leads have dielectric fluid to compensate for hydrostatic pressure and protect the electrical components in the subsea control system.

3.8 Subsea Inspection, Monitoring, Maintenance and Repair Activities

Subsea infrastructure is designed not to require significant intervention; however inspections, monitoring, maintenance and repair activities are undertaken periodically throughout operations to ensure the integrity of the infrastructure and identify problems before they present a risk of loss of containment. Maintaining infrastructure integrity also supports decommissioning planning.

Subsea activities are typically undertaken from a subsea support vessel or Uncrewed Surface Vessel (USV) and may use an ROV with transponders or autonomous underwater vehicles (AUV).

Maintenance and repair activities may require the deployment of frames/baskets which are temporarily placed on the seabed. These typically have a perforated base with a seabed footprint of <math><15\text{ m}^2</math>. This temporary equipment is recovered to project vessels on the completion of IMMR activities.

Typical IMMR activities are described below.

3.8.1 Inspections

Inspection of subsea infrastructure is the process of physical verification and assessment of components in order to detect changes to the as-installed location and condition by comparison to initial state following installation and previous inspections. Details of typical routine subsea

infrastructure inspections/surveys and indicative frequencies are provided in **Table 3-7**. However other non-routine IMMR activities may be required during the life of this EP.

Scope and frequency of subsea infrastructure inspections are determined using a risk-based inspection (RBI) methodology and associated plans.

Inspections of the two exploration wellheads are determined by the WOMP. In line with the WOMP commitment relating to the well, Woodside continues to undertake detailed subsurface/technical assessments of these wells. This is to ensure that the wells are abandoned to the relevant regulatory requirements, including permanent downhole barriers.

Table 3-7: Typical subsea infrastructure inspections and frequencies

Type of Inspection/Survey	Subsea infrastructure	Purpose	Approximate Frequency
General visual inspection	All subsea infrastructure, including exploration wellheads	Check general infrastructure integrity.	Varied – every 2-5 years
Close visual inspections	All subsea infrastructure	Investigate certain subsea infrastructure components.	Varied – every 2-5 years
Cathodic protection	All subsea infrastructure	Check for corrosion and renew sacrificial anodes, if required.	Varied – every 2-5 years
Wall thickness surveys	Production and crossover manifolds, flowlines and pipelines	Monitor the condition of subsea infrastructure. (i.e., ultrasonic testing). Typically, only performed if a specific threat is identified through other means.	Possible: Once every 25 years.
Acoustic survey including multibeam sonar (MBES) and Side Scan Sonar (SSS)	Pipelines and spools	Identify buckling, movement, scour and seabed features. Low frequency/ intensity signals undertaken on the flowlines.	Varied – every 1-5 years
Non-destructive testing	Pipeline and manifolds (if required)	Evaluates the properties of material/items using electromagnetic, radio graphic, acoustic resonance technology, ultrasonic, or magnetic equipment.	Possible: Once every 25 years.
Seabed sampling surveys including minor grabs/cores	N/A	Identify benthic fauna, sediment characteristics, determine level of penetration / compaction, etc. Grabs/cores typically disturb 0.1m ² of seabed per sample.	Typical: Once every 25 years. Worst Case: Once every 5 years
Water sampling	N/A	Determine water quality around the pipeline	Typical: Once every 25 years. Worst Case: Once Every 5 years
Anode inspections and/or replacement	Production structures	Corrosion prevention	Possible: Once every 25 years.

3.8.2 Monitoring

Monitoring of subsea infrastructure refers to the process of surveillance of the physical and chemical environment that a subsea system or component is exposed to in order to determine if and when

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damage may occur, and (where relevant) predict the rate or extent of that damage. Monitoring activities may include process composition testing, acoustic sand detectors, corrosion probes, corrosion mitigation checks, metocean and seismic monitoring, and cathodic protection testing. Other monitoring activities include process monitoring (temperature, pressure, etc.) and cyclone weather monitoring.

3.8.3 Maintenance

Maintenance activities on subsea infrastructure are those required to prevent deterioration or repair a failure of infrastructure. Typical maintenance activities include but are not limited to those described in **Table 3-8**.

Table 3-8: Typical maintenance activities and frequencies

Type of maintenance	Subsea infrastructure	Purpose	Approximate Frequency
Cycling of valves via control system	Xmas trees	Test functionality of technical integrity valves	Every 2 years for well barriers during operations
Scale and marine growth removal	All subsea infrastructure	To enable access	As required in order to complete a subsea intervention
Flushing of chemical hydraulic fluid lines	Hydraulic fluid lines	For repair scenarios	When required for repair
Leak and pressure testing	All subsea infrastructure	Test integrity of subsea infrastructure	Following installation of subsea infrastructure components after a repair or intervention, prior to return to service

3.8.4 Repair

Repair activities are those required when a subsea system or component is degraded, damaged or has deteriorated to a level outside of acceptance limits. Damage sustained may not necessarily pose an immediate threat to continued system integrity but may present an elevated level of risk to environment or production reliability. Due to the design of subsea infrastructure and materials used, repairs are undertaken on an as needs basis. The requirements and frequency of these repairs are dictated by the outcome of the inspection and maintenance regimes described in **Section 3.8.1** and **Section 3.8.3**. Typical subsea repair activities include but are not limited to:

- subsea choke replacement
- chemical injection metering valve insert replacement
- Subsea control module (SCM) or electrical distribution unit (EDU)
- Router hub module (RHM) replacement
- hydraulic flying lead (HFL) replacement
- electrical flying lead (EFL) replacement
- control manifold recovery and repair
- pipeline or spool support with grout bag, mattress, anchors or rock dumping
- spool disconnection and/or replacement
- umbilical jumper replacement and/or relocation

- flowline/pipeline replacement
- scour prevention installation
- cathodic protection system replenishment/repair.

When equipment is replaced, the redundant equipment, may remain *in-situ* or be removed from the field. The location of redundant subsea infrastructure items is recorded as part of the ROV as left survey for that campaign and included in a database for Macedon subsea inventory (**Section 6.6.2**).

3.8.5 Typical Discharges During IMMR Activities

Minor environmental discharges are expected during subsea IMMR activities (e.g., during pressure/leak testing or flushing). Where practicable, flushing is performed before a subsea component is disconnected to reduce residual hydrocarbon or chemical releases to the environment upon disconnection. **Table 3-9** shows typical discharge volumes during different IMMR activities.

Table 3-9: Typical Discharge Volumes During Different IMMR Activities

IMMR Activity	Discharge	Volume Estimates
Pressure/Leak testing	Control fluid	Up to approximately 2500 L depending on the leak testing scenario
	Chemical dye	Approximately <10 L
Flushing	Residual hydrocarbon	Various depending on injection port size, component geometry and pumping rates
	Production chemicals (ie. Corrosion inhibitor or oxygen scavenger).	
Hot stab change out	Hydrocarbons	Approximately <10 L
	Control fluid	
SCM changeout	Diluted acid	Approximately 4000 L
	Control fluid	Approximately <10 L
Hydraulic flying lead and umbilical replacement	Hydraulic fluid and chemicals	Approximately <40 L
Choke change out	Hydrocarbons (gas)	Approximately <10 m ³
	Methanol (MeOH)	Approximately 280 L
	Acid release	Approximately 2000 L
Flowline or spools repair, replacement and recovery	Hydrocarbons or other chemicals, depending on equipment configuration and flushing ability.	Subject to ALARP determination as per Woodside standard practice and procedures.

3.8.6 Scale and Marine Growth Removal

Scale and marine growth removal is required for subsea intervention operations and is typically undertaken by ROV. The different techniques used are described in **Table 3-10**.

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Table 3-10: Scale and marine growth removal techniques

Activity / Equipment	Description
Water jetting	Uses high pressure water stream to remove marine growth.
Brush systems	Uses brushes attached to an ROV to physically remove marine growth.
Acid (typically a light acid solution)	Chemically dissolves calcium deposits. Volume used is dependent on the amount of scale or marine growth to remove.
Sand/abrasive blasting	Additional cleaning to allow close visual inspections.

3.8.7 Sediment Relocation and Seabed Disturbing Activities

If sediment builds up around a pipeline or other subsea infrastructure, an ROV-mounted suction pump/dredging unit may be used to relocate the sediment to allow inspection/works to be undertaken. This activity is limited to the relocation of small amounts of sediment material in the immediate vicinity of the subsea infrastructure (i.e., within the existing footprint). Sediment relocation typically results in minor seabed disturbance and some localised turbidity.

Other IMMR activities may involve seabed disturbance. If during IMMR activities it is determined that anode skids are required for corrosion protection, they are placed on the seabed using a support vessel crane. A typical anode skid has a seabed footprint of about 8m². Similarly, maintenance and repair activities may require the deployment of frames/baskets which are temporarily placed on the seabed. These typically have a perforated base with a seabed footprint of <15 m².

3.8.8 Pigging Operations

Pigging of the pipeline may be required for a variety of reasons, e.g., inspection, maintenance, repair or to facilitate modifications. Should pigging be required, provision has been made for the installation of a temporary subsea pig launcher. The pipeline pigging system including the launcher, receiver and the pipelines is designed for maximum operation pressure of the production system.

The two closed valves on the manifold where the pig launcher is installed, remain closed until the pig launcher installation. A seal test is completed creating a sealed process during routine pigging operations.

3.9 Subsea Support Vessels

Subsea support vessels used to support routine IMMR activities may range in length from 35 m to 120 m and include multi-purpose support vessels and dive support vessels. Typically, only a single subsea support vessel would be required to undertake IMMR activities for Macedon. Infrequently, there may be a requirement for more than one subsea support vessel or larger vessels (e.g., for a repair campaign).

Subsea support vessels can operate 24-hours a day during campaigns. The length of time that vessels are in the Operational Area varies depending on the nature of the activity, operational requirements, vessel schedules, capability and availability. It is anticipated that vessel time for routine inspection activities along the pipeline will involve no more than one to two weeks per campaign, depending upon operational requirements. Maintenance and repair activities may result in additional vessel time, depending on the scale and complexity of the work scope, but such activities are expected to be infrequent.

Typical subsea support vessels use a dynamic positioning (DP) system in combination with satellite navigation to allow manoeuvrability, maintain position and avoid anchoring when undertaking works due to proximity of subsea infrastructure. Subsea support vessels are equipped with anchors which may be deployed in the event of an emergency. All subsea support vessels will use marine diesel oil or marine gas oil and will be provisioned in port. There will be no refuelling on site.

During IMMR activities other vessels such as uncrewed surface vessels (USV), remote operated vehicles (ROV) and/or autonomous underwater vessels (AUVs) could also be used.

3.10 Chemical Selection, Assessment and Approval

Operational chemicals required by the PAP are selected and approved in accordance with Woodside’s chemical selection and assessment guideline . This process is used to reduce potential impacts and risks associated with chemical use to ALARP by selecting chemicals with the lowest practicable environmental impacts and risks, subject to technical constraints.

Environmental Selection Criteria

Woodside’s process for selecting and assessing chemicals follows the principles outlined in the Offshore Chemical Notification Scheme (OCNS) which manages chemical use and discharge in the United Kingdom (UK) and the Netherlands (background on the OCNS scheme is provided below).

- where operational chemicals with an OCNS rating of Gold/Silver/E/D and no OCNS substitution or product warning are selected, or a substance is considered to pose little or no risk (PLONOR) to the environment, no further control is required. Such chemicals do not represent a significant impact on the environment under standard use scenarios and therefore are considered ALARP and acceptable
- If other non-rated chemicals are required, or rated chemicals with a substitution warning, chemical selection process and ALARP justifications are undertaken where required.

The ALARP assessment may consider chemical toxicity, biodegradation, and bioaccumulation potential, using industry standard classification criteria. If a product has no specific ecotoxicity, biodegradation, or bioaccumulation data available, these options are considered:

- environmental data for analogous products can be referred to where chemical ingredients and composition are largely identical, or
- environmental data may be referenced for each separate chemical ingredient (if known) within the product.

Background Overview of OCNS

The OCNS Scheme applies the requirements of the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention). The OSPAR Convention is widely accepted as best practice for chemical management.

All chemical substances listed on the OCNS ranked list of registered products have an assigned ranking based on toxicity and other relevant parameters such as biodegradation, and bioaccumulation, in accordance one of two schemes (as shown in **Figure 3-3**):

- **HQ Colour Band:** Gold, Silver, White, Blue, Orange and Purple (listed in order of increasing environmental hazard); or
- **OCNS Grouping:** E, D, C, B or A (listed in order of increasing environmental hazard). Applied to inorganic substances, hydraulic fluids and pipeline chemicals only.

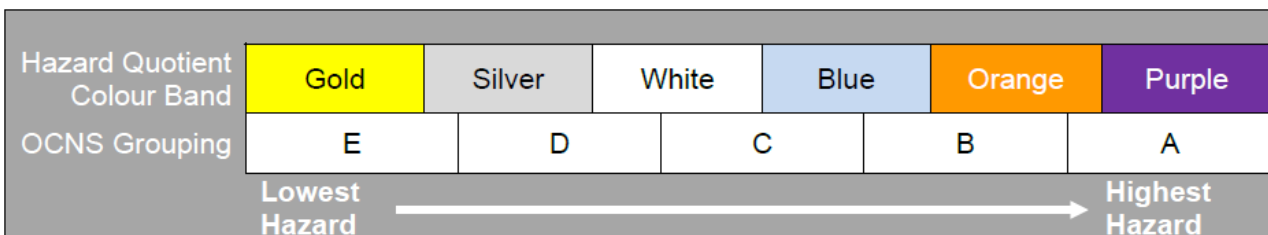


Figure 3-3: OCNS ranking scheme

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4. DESCRIPTION OF THE EXISTING ENVIRONMENT

4.1 Overview

In accordance with Regulations 21(2) and 21(3) of the Environment Regulations, this section describes the environment that may be affected (EMBA) by the activity described in **Section 3**, including details of the particular relevant values and sensitivities of the environment, which were used for the risk assessment.

The EMBA is the largest spatial extent where the activity could have an environmental consequence on the surrounding environment. For this EP, the EMBA is the combined potential spatial extent of surface and in-water hydrocarbons at concentrations above ecological impact thresholds, in the event of the following scenarios (**Section 6.7.2**):

- Scenario 1: Hydrocarbon release from a single tank (125 m³) caused by a vessel collision at the Macedon Well centre over 21 days

The ecological impact thresholds used to delineate the EMBA are defined in **Section 6.7.1.2**. The EMBA also includes any areas that are predicted to experience shoreline contact with hydrocarbons above threshold concentrations.

Woodside recognises that hydrocarbons may be visible beyond the EMBA at lower concentrations than the ecological impact thresholds defined in **Section 6.7.1.2**. These visible hydrocarbons are not expected to cause ecological impacts. In respect of this, an additional socio-cultural EMBA is defined, as the potential spatial extent within which social-cultural impacts may occur from changes to the visual amenity of the marine environment. Receptors relevant to the socio-cultural EMBA include Commonwealth and State marine protected areas, National and Commonwealth Heritage Listed places, areas of tourism and recreation, and commercial and traditional fisheries. The EMBA and socio-cultural EMBA are shown in **Figure 4-1** and described in **Table 4-1**.

The EMBA presented does not represent the predicted coverage of any one hydrocarbon spill or a depiction of a slick or plume at any particular point in time. Rather, the areas are a composite of many theoretical paths, integrated over the full duration of the simulations under various metocean conditions.

Table 4-1: Hydrocarbon spill thresholds used to define EMBA for surface and in-water hydrocarbons

Hydrocarbon Type	EMBA ¹	Socio-cultural EMBA ¹	Planning Area for Scientific Monitoring
Surface	10 g/m ² This represents the minimum oil thickness (0.01 mm) at which ecological impacts (e.g., to birds and marine mammals) are expected to occur.	1 g/m ² This represents a wider area where a visible sheen may be present on the surface and, therefore, the concentration at which socio-cultural impacts to the visual amenity of the marine environment may occur. However, it is below concentrations at which ecological impacts are expected to occur. This low exposure value also establishes the planning area for scientific monitoring (NOPSEMA guidance note: A652993, April 2019).	
Dissolved	50 ppb This represents potential toxic effects, particularly sublethal effects to highly sensitive species (NOPSEMA guidance note: A652993, April 2019). As dissolved hydrocarbons are within the water column and not visible, impacts to socio-cultural receptors are associated with ecological impacts. Therefore, dissolved hydrocarbons at this threshold also represent the level at which socio-cultural impacts may occur.		10 ppb This low exposure value establishes the planning area for scientific monitoring (based on potential for exceedance of water quality triggers) (NOPSEMA guidance note: A652993, April 2019). This area is described further in Appendix H . In the event of a spill, DNP will be notified of AMPs which may be
Entrained	100 ppb		

Hydrocarbon Type	EMBA ¹	Socio-cultural EMBA ¹	Planning Area for Scientific Monitoring
	This represents potential toxic effects, particularly sublethal effects to highly sensitive species (NOPSEMA guidance note: A652993, April 2019). As entrained hydrocarbons are within the water column and not visible, impacts to socio-cultural receptors are associated with ecological impacts. Therefore, entrained hydrocarbons at this threshold also represent the level at which socio-cultural impacts may occur.		contacted by hydrocarbons at this threshold.
Shoreline	100 g/m ² This represents the threshold that could impact the survival and reproductive capacity of benthic epifaunal invertebrates living in intertidal habitat.	10 g/m ² This represents the volume where hydrocarbons may be visible on the shoreline but is below concentrations at which ecological impacts are expected to occur.	N/A

¹ Further details including the source of the thresholds used to define the EMBA in this table are provided in **Section 6.7**

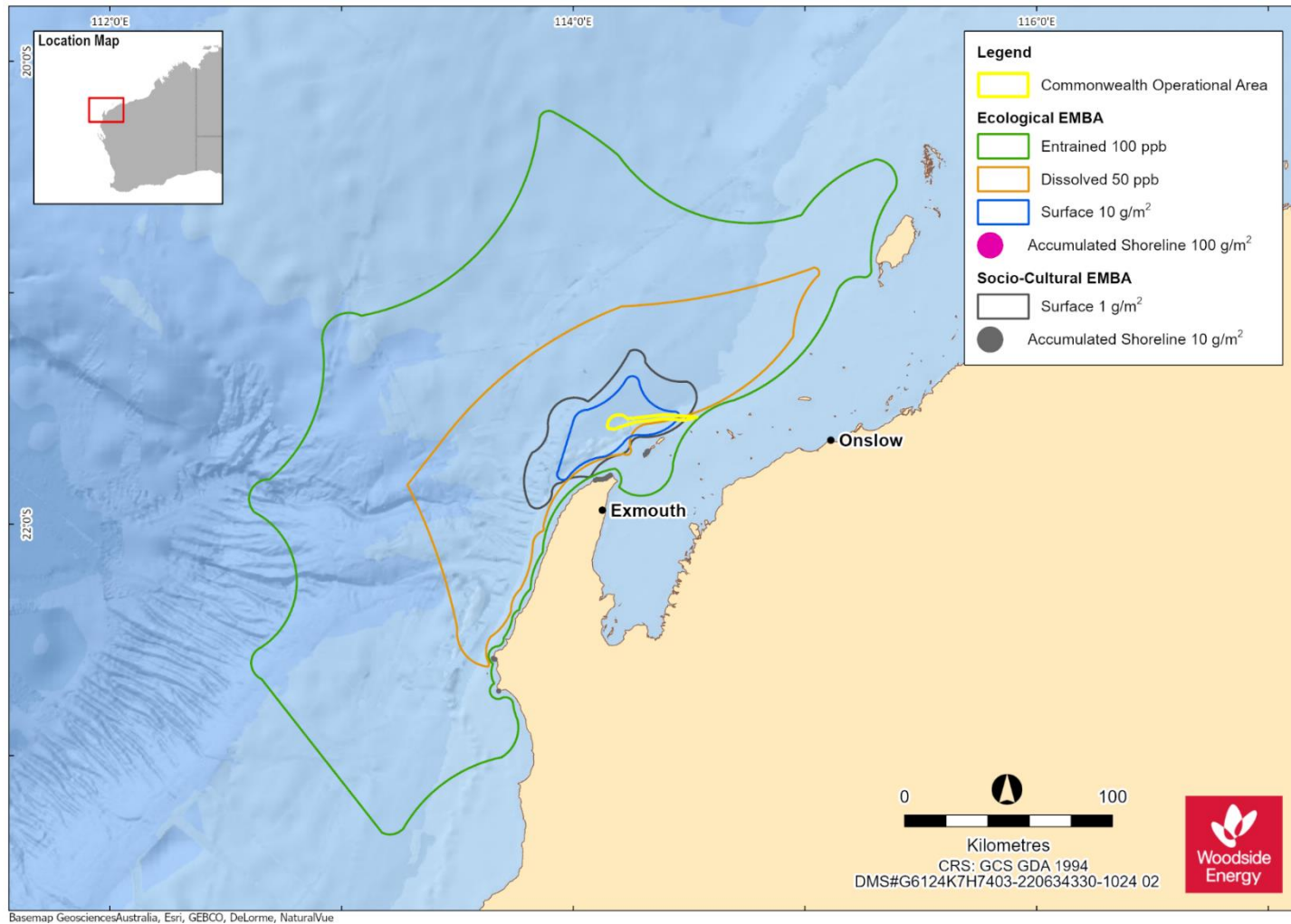


Figure 4-1 Environment that may be affected by the Petroleum Activities Program

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4.2 Regional Context

The Operational Area is located in Commonwealth waters within the North-west Marine Region (NWMR), as defined under the Integrated Marine and Coastal Regionalisation of Australia (IMCRA v4.0) (Commonwealth of Australia, 2006), in water depths of 60 to 180 m. The wet gas pipeline and umbilical in Commonwealth waters are approximately 24 km in length, extending up to the State-Commonwealth waters boundary.

Within the NWMR, the Operational Area lies within the Northwest Shelf Province and the Central Western Shelf Transition (**Figure 4-2**). The EMBA also overlaps the Northwest Province and the Central Western Transition within the North-west Marine Region. Woodside's Description of Master Existing Environment summarised the characteristics for the relevant marine bio-regions.

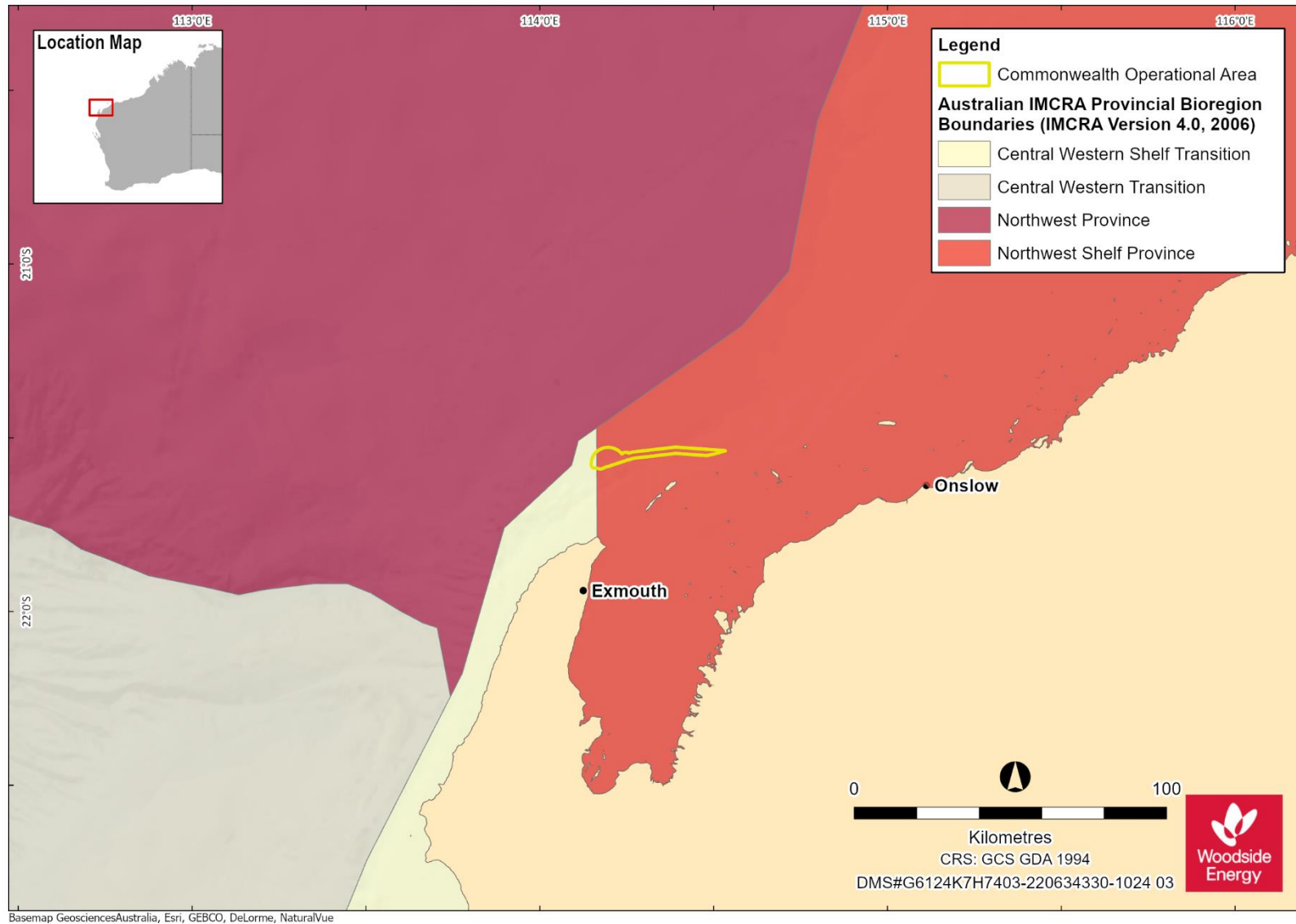


Figure 4-2: Location of the Operational Area and relevant marine bio-region

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4.3 Matters of National Environmental Significance (EPBC Act)

Table 4-2 summarise the MNES overlapping the Operational Area and EMBA, respectively, according to Protected Matters Search Tool (PMST) results (**Appendix C**). It should be noted that the EPBC Act PMST is a general database that conservatively identifies areas in which protected species have the potential to occur.

Additional information on these MNES are provided in subsequent sections of this chapter and described in detail in the Master Existing Environment.

Table 4-2: Summary of MNES identified by the EPBC Act PMST as potentially occurring within the Operational Area and EMBA

MNES	OA	EMBA	Relevant Section
World Heritage Properties	0	1	Section 4.9.1.11
National Heritage Places	0	1	Section 4.9.1.11
Wetlands of International Importance (Ramsar)	0	0	N/A
Commonwealth Marine Area	1	1	Whole of Section 4
Listed Threatened Ecological Communities	0	0	N/A
Listed Threatened Species	24	47	Section 4.6
Listed Migratory Species	40	60	Section 4.6

4.4 Physical Environment

The Operational Area lies on the outer continental shelf in waters approximately 60 to 180 m deep (**Figure 4-3**). The bathymetry within the Operational Area is generally flat, which is consistent with the broader NWS Province and Central Western Shelf Transition regions (Baker et al. 2008).

A description of the physical environment consistent with the North West Marine Region is described in detail in the Master Existing Environment.

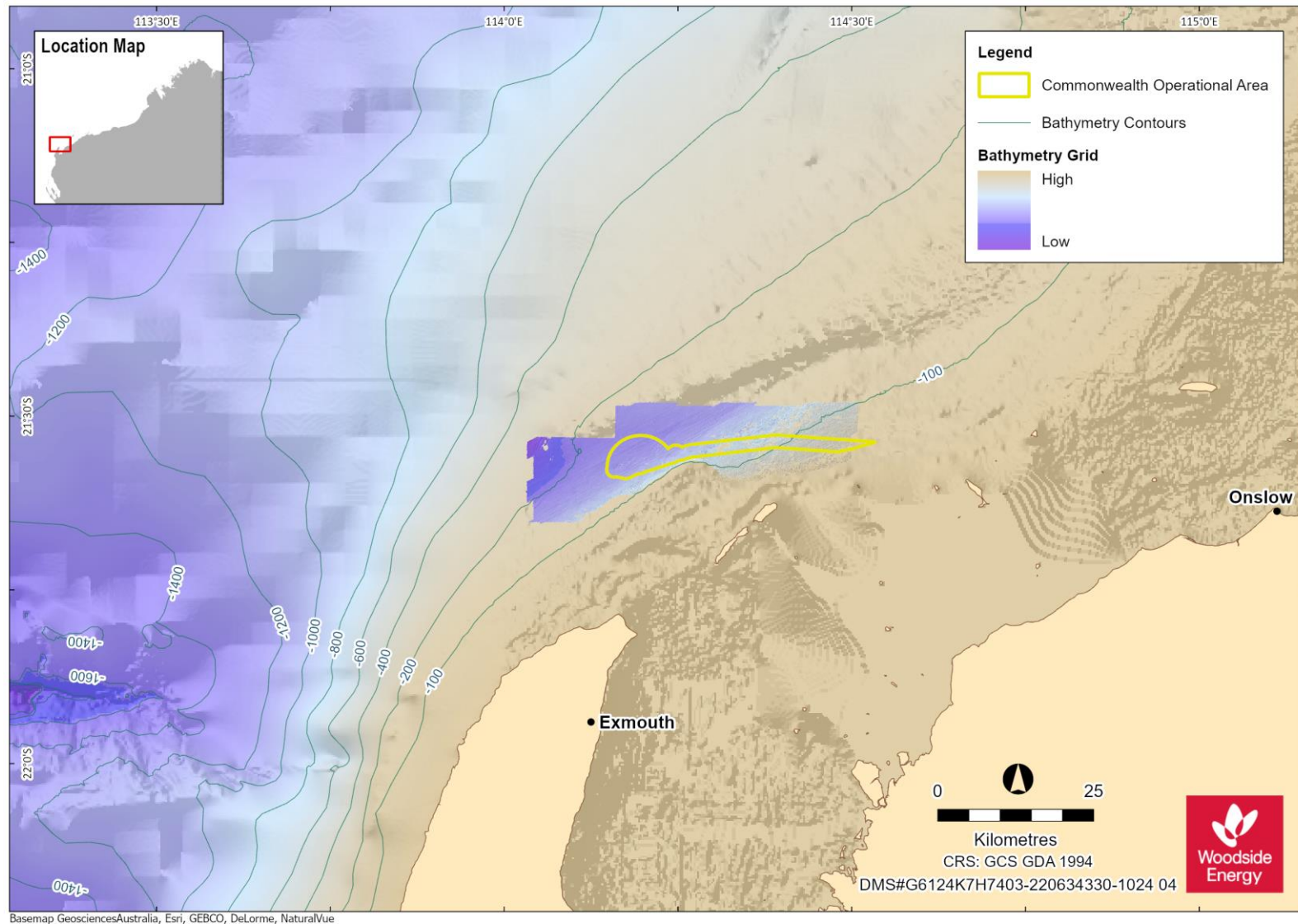


Figure 4-3: Bathymetry of the Operational Area

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4.5 Habitats and Biological Communities

Sediments in the Operational Area are expected to be comprised primarily of soft sediment i.e., mud and calcareous clay and calcareous gravel, sand and silt. A survey conducted in 2011 on the benthic environment along the Macedon pipeline route supported this and suggested that the seabed is primarily composed of soft sediments with silt to gravel sized particles and sparse sedimentary material cover (BHP, 2011).

Although hard substrates are not known to occur within the Operational Area they have potential to occur. This is because the NWMR hosts diverse benthic communities and substrate also occurs on the Ancient coastline at 125 m depth contour Key Ecological Feature (KEF) and the Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula KEF, which overlap the Operational Area.

Key habitats and ecological communities within the EMBA are identified and described in **Table 4-3**. A detailed description of habitats and biological communities is included in the Master Existing Environment.

Table 4-3: Habitats and Communities within the EMBA

Habitat/Community	Key locations within the EMBA
Seabed characteristics	
Ancient Coastline at 125 m Depth Contour	The Ancient Coastline at 125 m Depth Contour KEF, overlaps part of the Operational Area (DAWE 2019a). Areas of this KEF comprise hard substrate and may occur within the Operational Area. Hard substrate seabed habitats present within the Operational Area are likely to support filter feeding biota such as sponges and gorgonians (sea whip and fans), as reported for hard substrate seabed habitat in similar water depths along this outer shelf area of the NWS.
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula KEF, overlaps part of the Operational Area. Areas of this KEF comprise hard substrate and may occur within the Operational Area. Hard substrates of the canyons' sides provide habitat for deepwater fish and other species.
Commonwealth waters adjacent to Ningaloo Reef	Commonwealth waters adjacent to Ningaloo Reef KEF, is located 8.5 km southwest of the Operational Area. The KEF is comprised of a system of coral formations interspersed with coral sand channels. The reef provides habitat for filter feeding communities of sponges, soft corals and gorgonians.
Exmouth Plateau	The Exmouth Plateau KEF is located 91 km north-west of the Operational Area. The KEF has a rough surface which is steep and intersected by large canyons in the north, steep and smooth in the west and gently sloping in the south.
Continental Slope Demersal Fish Communities	The Continental Slope Demersal Fish Communities KEF is located 8 km west of the Operational Area. The KEF has high diversity compared to elsewhere along the Australian continental slope, supporting hundreds of fish species many of which are endemic to the region.
Marine primary producers	
Coral	<ul style="list-style-type: none"> • Muiron Islands (8.7 km south) • Ningaloo Coast (3 km south) • Barrow Island (114.6 km north)
Seagrass beds and macroalgae	<ul style="list-style-type: none"> • Muiron Islands (8.7 km south) • Ningaloo Coast (3 km south) • Barrow Island (114.6 km north)
Mangroves	<ul style="list-style-type: none"> • Ningaloo Coast (3 km south)
Other communities and habitats	

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Habitat/Community	Key locations within the EMBA
Plankton	<p>Plankton within the Operational Area and EMBA are expected to be representative of the wider NWMR, as detailed in the Master Existing Environment.</p> <p>Peak primary productivity within the EMBA occurs in late summer/early autumn, along the shelf edge of the Ningaloo Reef. It also links to a larger biologically productive period in the area that includes mass coral spawning events, peaks in zooplankton and fish larvae abundance (CALM 2005a), with periodic upwelling throughout the year. Further detail regarding productivity at other notable locations within the EMBA (e.g., North-west Cape) is provided in the Master Existing Environment.</p>
Pelagic and demersal fish populations	<p>Pelagic and demersal fish populations within the Operational Area and EMBA are expected to be representative of the NWMR (described in the Master Existing Environment).</p> <p>Particular features overlapping the Operational Area that are known to support pelagic and demersal fish populations include the Ancient Coastline at 125 m Depth Contour KEF and Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula KEF. Features outside the Operational Area but within the EMBA which support fish populations include the Demersal Fish Communities KEF and the Commonwealth Waters adjacent to Ningaloo Reef KEF.</p> <p>These features are described in the Master Existing Environment.</p> <p>Notably, the presence of subsea infrastructure associated with the Macedon field production system has resulted in the development of demersal fish communities that would otherwise not occur in the Operational Area due to the hard substrate the infrastructure provides in an otherwise generally featureless, soft sediment that is present (McLean et al. 2017).</p>
Epifauna and infauna	<p>Filter feeders such as sponges, ascidians, soft corals, and gorgonians are animals that feed by actively filtering suspended matter and food particles from water by passing the water over specialised filtration structures (DEWHA 2008). Filter feeders within the EMBA are expected to be representative of the NWMR, with notable areas of high sponge diversity occurring in the Commonwealth waters of Ningaloo Marine Park (see Master Existing Environment, Section 5.4).</p> <p>Discrete areas of hard substrate hosting sessile filter feeding communities may also be associated within the Ancient Coastline at 125 m Depth Contour KEF and Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula KEF, which overlaps the Operational Area. Filter feeder communities within the Operational Area are also present on the subsea infrastructure, which provides hard substrate for attachment in an otherwise generally featureless, soft and sandy substrate (McLean et al. 2017).</p>

4.6 Protected Species

A total of 159 EPBC Act listed species considered to be MNES were identified as potentially occurring within the EMBA, of which a subset of 105 species were identified as potentially occurring within the Operational Area. These results inform the assessment of impacts from planned and unplanned events (**Section 6.6** and **6.7**). It should be recognised that the PMST is a general database that conservatively identifies areas in which protected species have the potential to occur.

Biologically important areas (BIAs) are defined by the Marine Bioregional Plan for the North-west Marine Region as areas of spatial aggregation of individuals within a species known to demonstrate biologically important behaviour (DCCEEW, 2023). Examples of such behaviours include breeding, foraging, resting or migration.

Species identified as potentially occurring within the Operational Area and EMBA, and BIAs or Habitat Critical to their Survival (Habitat Critical) that overlap the Operational Area and EMBA, are listed in **Table 4-4** to **Table 4-12**. A description of species is included in the Master Existing Environment.

Figure 4-5 to **Figure 4-11** show the spatial overlap between the Operational Area and relevant BIAs and Habitat Critical areas.

4.6.1 Fish, Sharks and Rays

A total of 48 EPBC Listed fish species have been identified as potentially occurring within the Operational Area or EMBA. Nine of these species are listed as 'threatened' along with an additional seven listed as 'migratory' under the EPBC Act. There are 32 species shown in the PMST results that have not been included within **Table 4-4**, these included a variety of pipefish and sea dragons that do not have a threatened or migratory listed status under the EPBC Act.

One BIA for fish, sharks and rays has been identified within the Operational Area and an additional BIA overlaps the EMBA as shown in **Figure 4-5**. These are both foraging BIAs for the Whale Shark and are fully described in **Table 4-5**.

Table 4-4: Threatened and Migratory Fish, Shark and Ray Species predicted to occur within the Operational Area and EMBA

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Pristis zijsron</i>	Green sawfish	Vulnerable	Migratory	Species or species habitat known to occur within area.	Species or species habitat known to occur within area.
<i>Rhincodon typus</i>	Whale shark	Vulnerable	Migratory	Foraging, feeding or related behaviour known to occur within area.	Foraging, feeding or related behaviour known to occur within area.
<i>Carcharodon carcharias</i>	White shark	Vulnerable	Migratory	Species or species habitat known occur within area.	Species or species habitat known to occur within area.
<i>Carcharias taurus</i> (west coast population)	Grey nurse shark (west coast population)	Vulnerable	N/A	Species or species habitat may occur within area.	Species or species habitat known to occur within area.
<i>Pristis clavata</i>	Dwarf sawfish	Vulnerable	Migratory	Species or species habitat known occur within area	Species or species habitat known to occur within area.
<i>Milyeringa veritas</i>	Cape Range Cave Gudgeon	Vulnerable	N/A	N/A	Species or species habitat known to occur within area.
<i>Ophisternon candidum</i>	Blind Cave Eel	Vulnerable	N/A	N/A	Species or species habitat known to occur within area.
<i>Sphyrna lewini</i>	Scalloped Hammerhead	Conservation Dependent	N/A	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	Species or species habitat likely to occur within area	Breeding known to occur within area.
<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	N/A	Migratory	Species or species habitat likely to occur within area.	Species or species habitat likely to occur within area.

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Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Manta birostris</i>	Giant manta ray	N/A	Migratory	Species or species habitat known to occur within area.	Species or species habitat known to occur within area.
<i>Isurus paucus</i>	Longfin mako	N/A	Migratory	Species or species habitat likely to occur within area.	Species or species habitat likely to occur within area.
<i>Anoxypristis cuspidata</i>	Narrow sawfish	N/A	Migratory	Species or species habitat may occur within area.	Species or species habitat likely to occur within area.
<i>Manta alfredi</i>	Reef manta ray	N/A	Migratory	Species or species habitat known to occur within area.	Species or species habitat known to occur within area.
<i>Isurus oxyrinchus</i>	Shortfin mako	N/A	Migratory	Species or species habitat likely to occur within area.	Species or species habitat likely to occur within area.
<i>Lamna nasus</i>	Porbeagle	N/A	Migratory	N/A	Species or species habitat may occur within area.

Table 4-5: Fish, Shark and Ray BIAs within the Operational Area and EMBA

Species	BIA type	Approximate Distance and Direction of BIA from Operational Area (km)
Whale Shark	Foraging: Northward from Ningaloo along 200 m isobath	Overlaps
	Foraging: Ningaloo Marine Park and adjacent Commonwealth waters	27.3 km south-west

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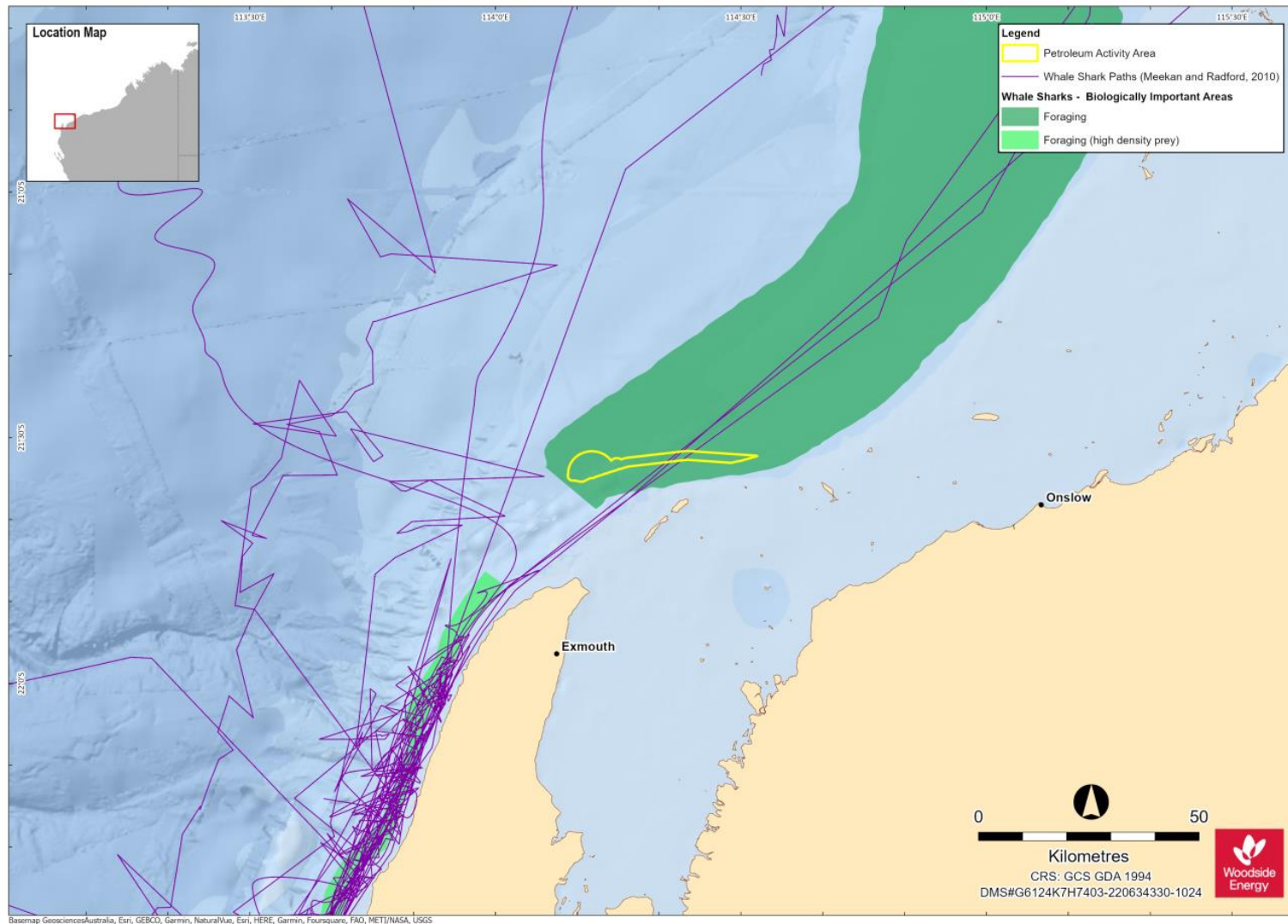


Figure 4-4: Whale Shark BIAs adjacent to the Operational Area

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4.6.2 Marine Reptiles

A total of 21 EPBC listed marine reptile species have been identified as potentially occurring within the Operational Area or EMBA. Seven of these species are listed under the EPBC Act as 'threatened', five of which are also listed as 'migratory'. There are 14 species shown in the PMST results that have not been included within **Table 4-6**, these include a variety of sea snakes that do not have a threatened or migratory listed status under the EPBC Act.

Foraging, nesting and internesting BIAs for the Green Turtle, Loggerhead Turtle, Leatherback Turtle and the Hawksbill Turtle are overlapped by or adjacent to the Operational Area or within the EMBA as shown in **Figure 4-5** and described in **Table 4-7**.

Habitat critical to the survival of the Green Turtle, Loggerhead Turtle, Leatherback Turtle and the Hawksbill Turtle is overlapped by, or adjacent to the Operational Area as shown in **Figure 4-6** and described in **Table 4-8**.

Table 4-6: Threatened and Migratory marine reptile species predicted to occur within the Operational Area and EMBA

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Natator depressus</i>	Flatback turtle	Vulnerable	Migratory	Congregation or aggregation known to occur within area.	Breeding 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>Eretmochelys imbricata</i>	Hawksbill turtle	Vulnerable	Migratory	Congregation or aggregation known to occur within area.	Breeding known to occur within area.
<i>Dermochelys coriacea</i>	Leatherback turtle	Endangered	Migratory	Species or species habitat known to occur within area.	Foraging, feeding or related behaviour known to occur within area.
<i>Caretta caretta</i>	Loggerhead turtle	Endangered	Migratory	Congregation or aggregation known to occur within area.	Breeding known to occur within area.
<i>Aipysurus apraefrontalis</i>	Short-nosed sea snake	Critically Endangered	N/A	Species or species habitat may occur within area.	Species or species habitat likely to occur within area.
<i>Aipysurus foliosquama</i>	Leaf-scaled sea snake	Critically Endangered	N/A	N/A	Species or species habitat known to occur within area.

Table 4-7: Marine turtle BIAs within the EMBA

Species	BIA type and location	Approximate distance and direction of BIA from Operational Area (km)
Flatback turtle	Nesting: Barrow Island	108.2 km north-east
	Internesting buffer Thevenard Island – South coast	Overlaps
	Internesting buffer: Montebello Island, Hermite Island, NW Island, and Trimouille Island	74 km north-east

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Species	BIA type and location	Approximate distance and direction of BIA from Operational Area (km)
	Foraging: Barrow Island	108.2 km north-east
	Mating: Barrow Island	108.2 km north-east
Green turtle	Nesting: North West Cape	25.4 km south
	Nesting: North and South Muiron Island	8.7 km south
	Nesting: West Coast Middle Island and North and West Coast Barrow Island	107.4 km north-east
	Internesting buffer: North and South Muiron Island	Overlaps
	Internesting buffer: North West Cape	Overlaps
	Internesting buffer: West Coast Middle Island and North and West Coast Barrow Island	82.8 km north-east
	Internesting buffer: Montebello Islands	127.9 km north-east
	Internesting buffer: Montebello Island, Trimouille Island, Hermite Island and NW Islands	133.1 km north-east
	Internesting: Barrow Island	108.2 km north-east
	Foraging: Inshore tidal and shallow subtidal areas around Barrow Island	108.2 km north-east
	Mating: West Coast Middle Island and North and West Coast Barrow Island	107.4 km north-east
	Basking: West Coast Middle Island and North and West Coast Barrow Island	107.4 km north-east
Hawksbill turtle	Nesting: Ningaloo coast and Jurabi coast	18.5 km south-west
	Nesting: Barrow Island	106.8 km north-east
	Internesting buffer: Ningaloo coast and Jurabi coast	Overlaps
	Internesting buffer: Thevenard Island	23.4 km east
	Internesting buffer: Barrow Island	84.9 km north-east
	Internesting buffer: Lowendal Island Group	126.4 km north-east
	Internesting buffer: Montebello Island, Trimouille Island, Hermite Island and NW Islands	133.1 km north-east
	Internesting buffer: Montebello Island, Trimouille Island and NW Islands	135.4 km north-east
	Foraging: Shallow water coral reef and artificial reef (pipeline) habitat	108.2 km north-east

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Species	BIA type and location	Approximate distance and direction of BIA from Operational Area (km)
	Mating: Barrow Island	108.2 km north-east
Loggerhead turtle	Nesting: Muiron Island	8.7 km south
	Nesting: Ningaloo coast and Jurabi coast	18.5 km south-west
	Interesting buffer: Ningaloo coast and Jurabi coast	Overlaps
	Interesting buffer: Muiron Island	Overlaps
	Interesting buffer: Lowenthal Island	134.4 km north-east
	Interesting buffer: Montebello Islands	137.2 km north-east

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Table 4-8: Habitat Critical to the Survival of Marine Turtles occurring within the EMBA

Species	Genetic stock	Nesting locations	Approximate distance and direction from Operational Area (km)	Inter-nesting buffer	Nesting period	Hatching period
Green turtle	NWS	Barrow Island, Montebello Islands, Serrurier Island and Thevenard Island *Additional critical habitat is located 1.7 km south from the Operational Area in the Exmouth Gulf and Ningaloo coast.	Overlaps	20 km	Nov–Mar (peak: Dec–Feb)	Jan–May (peak: Feb–Mar)
Loggerhead turtle	WA	Exmouth Gulf and Ningaloo coast	1.7 km south	20 km	Nov–Mar (peak: Jan)	Jan–May
Flatback Turtle	Pilbara	Barrow Island, Montebello Islands, coastal islands from Cape Preston to Locker Island	Overlaps	40 km	Oct–Mar (peak: Nov–Jan)	Feb–Mar
Hawksbill turtle	Western Australia	Cape Preston to mouth of Exmouth Gulf including Montebello Islands and Lowendal Islands	Overlaps	20 km	All year (peak: Oct–Jan)	All year (peak: Dec–Feb)

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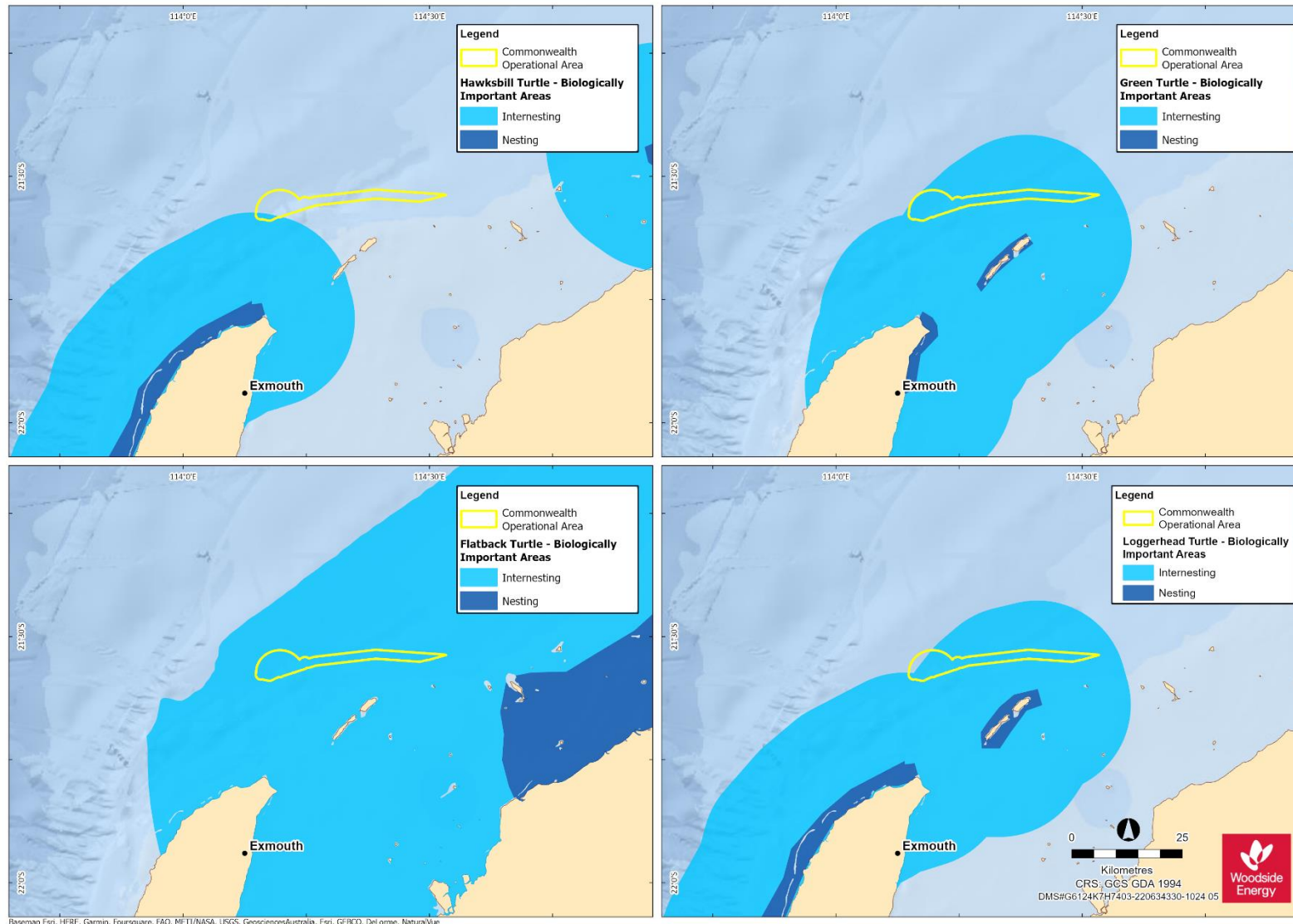


Figure 4-5: Marine turtle BIAs overlapping and adjacent to the Operational Area

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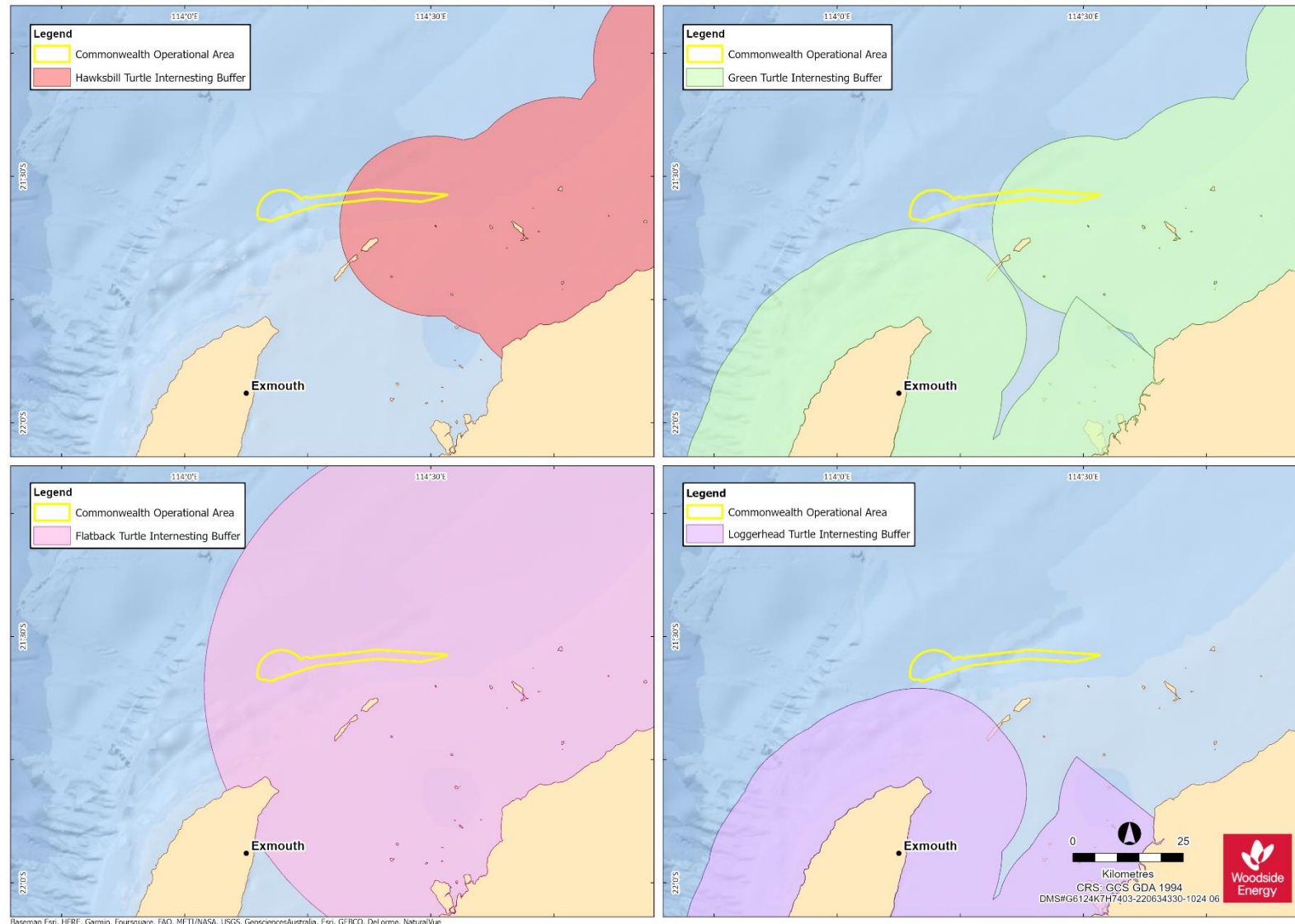


Figure 4-6: Habitat Critical to the Survival of Marine Turtles overlapping and adjacent to the Operational Area

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4.6.3 Marine Mammals

A total of 41 EPBC Listed marine mammal species have been identified as potentially occurring within the Operational Area or EMBA. Four of these species are listed under the EPBC Act as 'threatened' and an additional nine are listed as 'migratory'. There are 28 species shown in the PMST results that have not been included within **Table 4-9**, these include a variety of whale and dolphin species that do not have a threatened or migratory listed status under the EPBC Act.

The humpback whale migration BIA overlaps with the Operational Area while foraging and migration BIAs for the Pygmy Blue Whale and Dugong overlap with the EMBA, as shown in **Figure 4-7**, **Figure 4-8** and **Figure 4-10** and described in **Table 4-10**.

Table 4-9: Threatened and Migratory marine mammal species predicted to occur within the Operational Area and EMBA

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Balaenoptera physalus</i>	Fin whale	Vulnerable	Migratory	Species or species habitat likely to occur within area.	Foraging, feeding or related behaviour likely to occur within area.
<i>Balaenoptera borealis</i>	Sei whale	Vulnerable	Migratory	Species or species habitat likely to occur within area.	Foraging, feeding or related behaviour likely to occur within area.
<i>Balaenoptera musculus</i>	Pygmy Blue whale	Endangered	Migratory	Species or species habitat likely to occur within area.	Migration route known to occur within area.
<i>Eubalaena australis</i>	Southern right whale	Endangered	Migratory	Species or species habitat likely to occur within area.	Species or species habitat likely to occur within area.
<i>Megaptera novaeangliae</i>	Humpback whale	N/A	Migratory	Breeding known to occur within area.	Breeding known to occur within area.
<i>Balaenoptera edeni</i>	Bryde's whale	N/A	Migratory	Species or species habitat likely occur within area.	Species or species habitat likely to occur within area.
<i>Orcinus orca</i>	Killer whale	N/A	Migratory	Species or species habitat may occur within area.	Species or species habitat may occur within area.
<i>Physeter macrocephalus</i>	Sperm whale	N/A	Migratory	Species or species habitat may occur within area.	Species or species habitat may occur within area.
<i>Tursiops aduncus</i> (Arafura/Timor Sea populations)	Spotted bottlenose dolphin	N/A	Migratory	Species or species habitat known occur within area.	Species or species habitat known to occur within area.
<i>Sousa sahalensis</i>	Australian Humpback Dolphin	N/A	Migratory	Species or species habitat may occur within area.	Species or species habitat known occur within area.
<i>Orcaella heinsohni</i>	Australian Snubfin Dolphin	N/A	Migratory	Species or species habitat may occur within area.	Species or species habitat known occur within area.
<i>Balaenoptera bonaerensis</i>	Antarctic minke whale	N/A	Migratory	N/A	Species or species habitat likely to occur within area.
<i>Dugong dugon</i>	Dugong	N/A	Migratory	N/A	Breeding known to occur within area.

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Table 4-10: Marine mammal BIAs within the EMBA

Species	BIA type	Approximate distance and direction from Operational Area (km)
Pygmy Blue whale	Migration (Augusta to Derby)	14.3 km west
	Foraging (Ningaloo)	36.3 km south-west
Humpback whale	Migration (north and south) (south of Shark Bay, north to Kimberly Region)	Overlaps
	Resting (Exmouth Gulf)	23.3 km south
Southern Right Whale	Reproduction (Ningaloo and Exmouth Gulf)	16.7 km south
	Migration (south of Ningaloo)	
Dugong	Calving (Exmouth Gulf)	16.6 km south
	Breeding (Exmouth Gulf)	
	Foraging (high density seagrass beds) (Exmouth Gulf)	
	Nursing (Exmouth Gulf)	

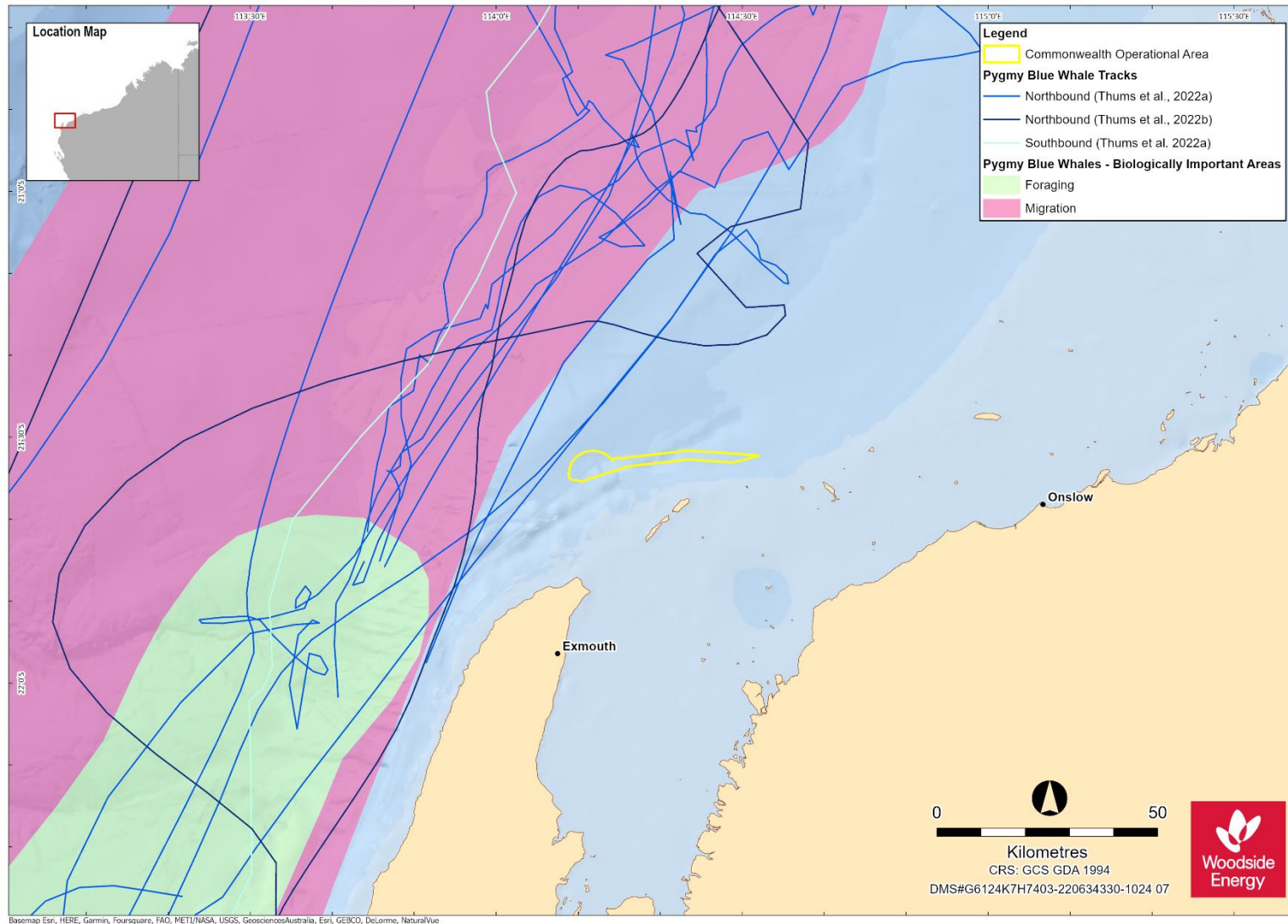


Figure 4-7: Pygmy blue whale BIAs and satellite tracks (Double et al., 2012, 2014)

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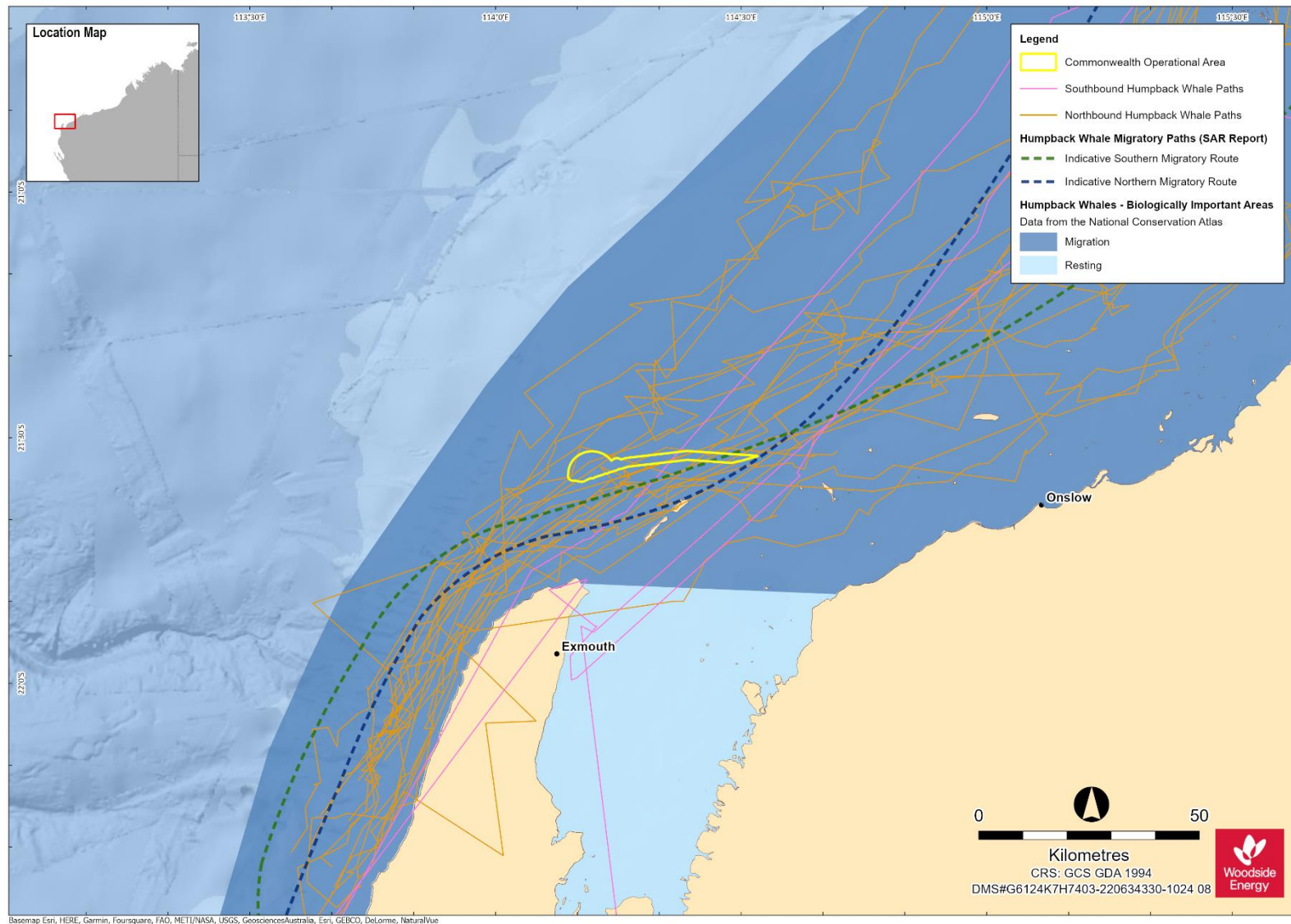


Figure 4-8: Humpback Whale BIAs and satellite tracks (Double et al., 2012, 2010)

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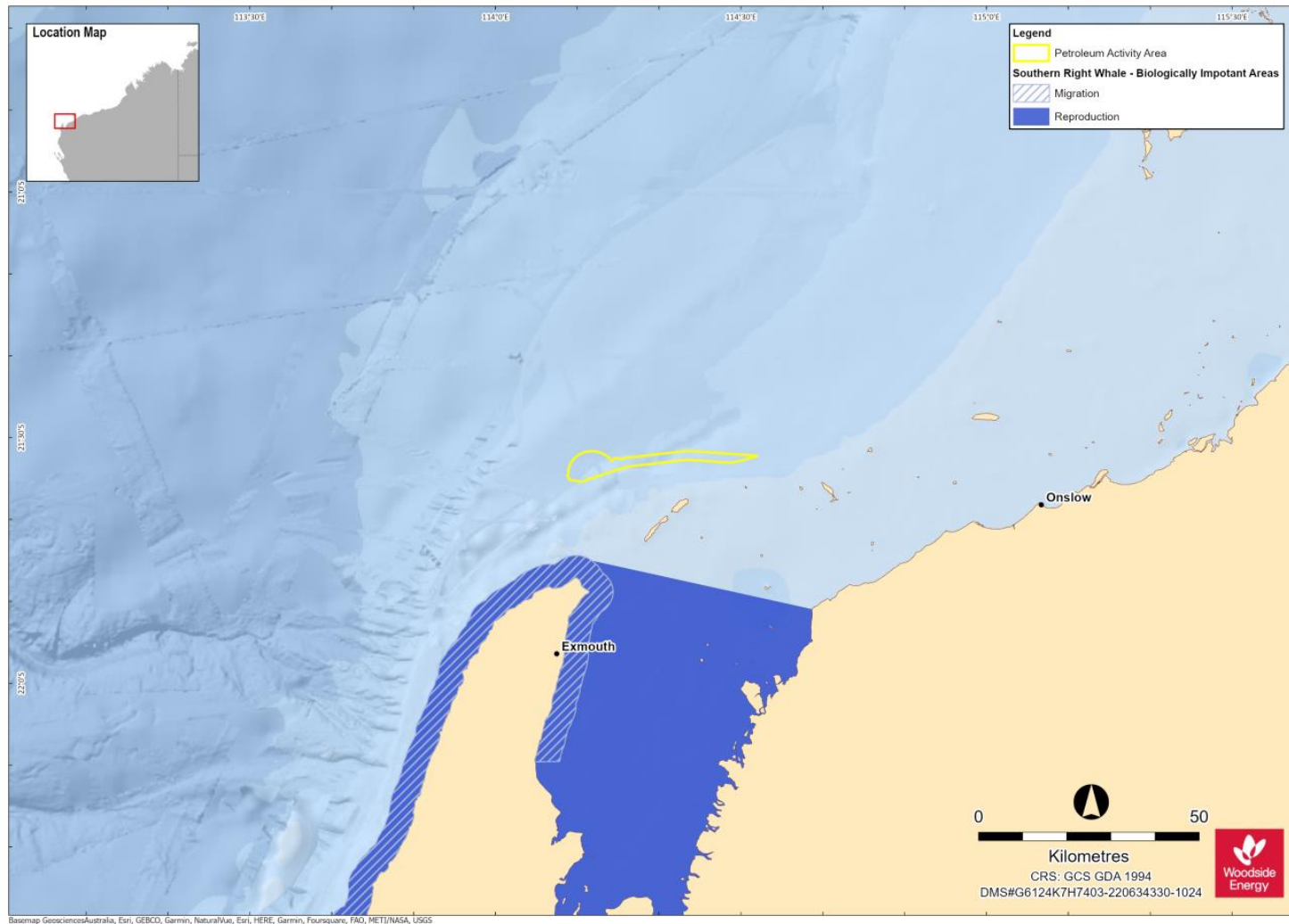


Figure 4-9: Southern Right Whale BIAs overlapping the EMBA

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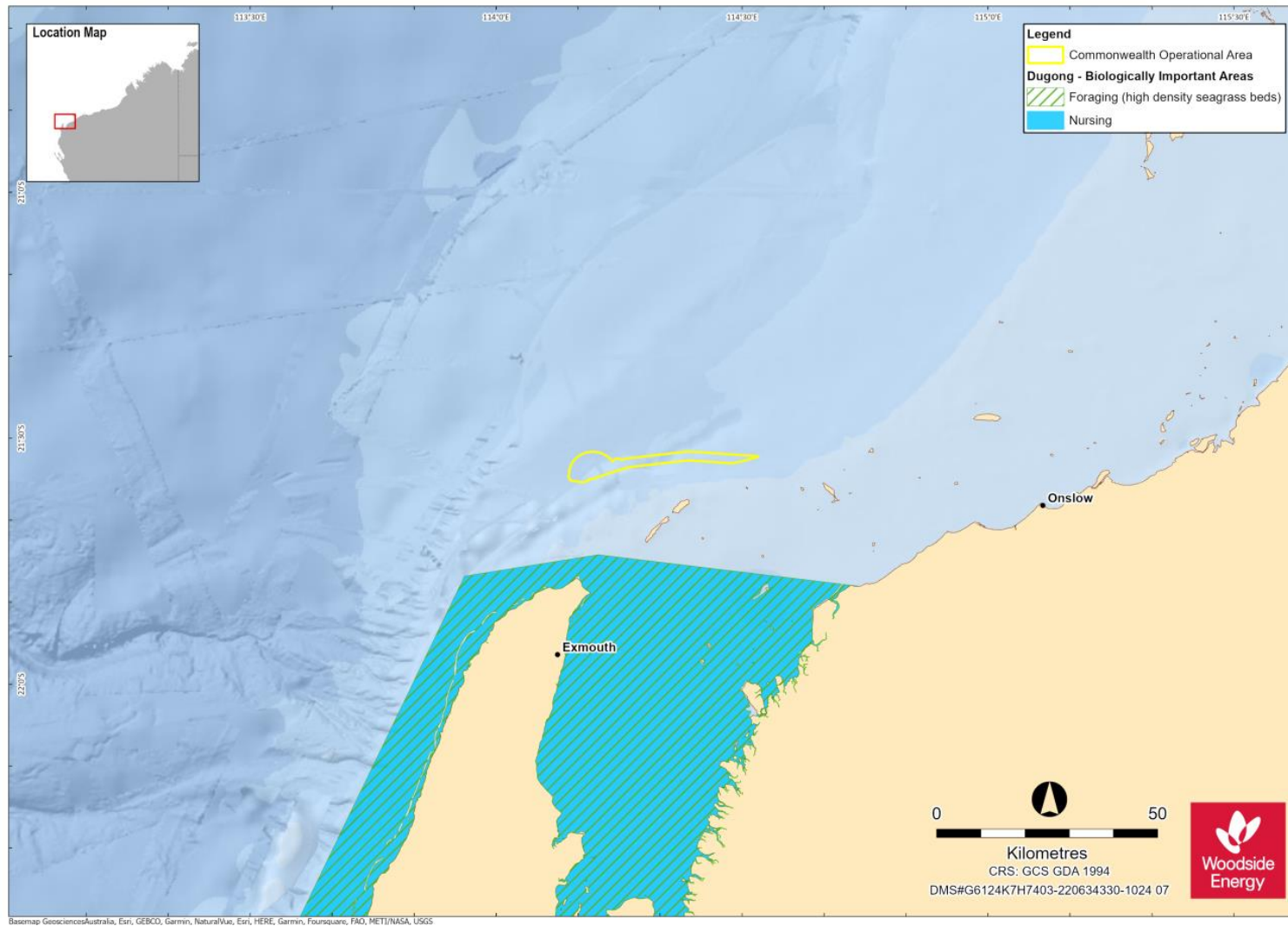


Figure 4-10: Dugong BIAs overlapping the EMBA

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4.6.4 Seabirds and Migratory Shorebirds

A total of 47 EPBC listed marine or coastal bird species have been identified to potentially occur within the Operational Area or EMBA. 16 of these species are listed under the EPBA Act as 'threatened' and an additional 23 are listed as 'migratory'. There are 8 species shown in the PMST results that have not been included within **Table 4-11**, these include a variety of bird species that do not have a threatened or migratory listed status under the EPBC Act.

Breeding BIAs for the Fairy Tern, Wedge-tailed Shearwater, Lesser Crested Tern and Roseate Tern either overlap the Operational Area or the EMBA as shown in **Figure 4-11** and described in **Table 4-12**.

Table 4-11: Threatened and Migratory marine seabird and shorebird species predicted to occur within the Operational Area and EMBA

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Thalassarche carteri</i>	Indian yellow-nosed albatross	Vulnerable	Migratory	Species or species habitat may occur within area.	Species or species habitat may occur within area.
<i>Sternula nereis nereis</i>	Australian fairy tern	Vulnerable	N/A	Foraging or feeding likely to occur within area.	Breeding known to occur within area.
<i>Falco hypoleucos</i>	Grey falcon	Vulnerable	N/A	N/A	Species or species habitat likely to occur within area.
<i>Charadrius leschenaultii</i>	Greater sand plover	Vulnerable	Migratory	N/A	Species or species habitat known to occur within area.
<i>Malurus leucopterus edouardi</i>	White-winged fairy-wren	Vulnerable	N/A	N/A	Species or species habitat likely to occur within area.
<i>Thalassarche impavida</i>	Campbell albatross	Vulnerable	Migratory	N/A	Species or species habitat may occur within area.
<i>Pterodroma mollis</i>	Soft-plumage petrel	Vulnerable	N/A	N/A	Foraging, feeding or related behaviour likely to occur within area.
<i>Calidris canutus</i>	Red knot	Vulnerable	Migratory	Species or species habitat may occur within area.	Species or species habitat known to occur within area.
<i>Macronectes giganteus</i>	Southern-giant petrel	Endangered	Migratory	Species or species habitat may occur within area.	Species or species habitat may occur within area.
<i>Phaethon lepturus fulvus</i>	Christmas Island white-tailed tropicbird	Endangered	N/A	N/A	Species or species habitat may occur within area.
<i>Rostratula australis</i>	Australian painted snipe	Endangered	N/A	N/A	Species or species habitat likely to occur within area.
<i>Erythrotriorchis radiatus</i>	Red goshawk	Endangered	N/A	N/A	Species or species habitat may occur within area.
<i>Pezoporus occidentalis</i>	Night parrot	Endangered	N/A	N/A	Species or species habitat may occur within area.

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Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Numenius madagascariensis</i>	Eastern curlew	Critically Endangered	Migratory	Species or species habitat may occur within area.	Species or species habitat known to occur within area.
<i>Calidris ferruginea</i>	Curlew sandpiper	Critically Endangered	Migratory	Species or species habitat may occur within area.	Species or species habitat known to occur within area.
<i>Limosa lapponica menzbieri</i>	Northern Siberian bar-tailed godwit	Endangered	N/A	N/A	Species or species habitat known to occur within area.
<i>Anous stolidus</i>	Common noddy	N/A	Migratory	Species or species habitat may occur within area.	Species or species habitat likely to occur within area.
<i>Fregata ariel</i>	Lesser frigatebird	N/A	Migratory	Species or species habitat likely to occur within area	Species or species habitat known to occur within area.
<i>Calonectris leucomelas</i>	Streaked shearwater	N/A	Migratory	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area.
<i>Ardenna carneipes</i>	Flesh-footed shearwater	N/A	Migratory	Species or species habitat may occur within area.	Species or species habitat likely to occur within area.
<i>Phaethon lepturus</i>	White-tailed tropicbird	N/A	Migratory	Species or species habitat known occur within area.	Species or species habitat known to occur within area.
<i>Calidris melanotos</i>	Pectoral Sandpiper	N/A	Migratory	Species or species habitat may occur within area.	Species or species habitat may occur within area.
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	Vulnerable	Migratory	Species or species habitat may occur within area.	Species or species habitat known to occur within area.
<i>Limnodromus semipalmatus</i>	Asian dowitcher	N/A	Migratory	N/A	Species or species habitat may occur within area.
<i>Hirundo rustica</i>	Barn swallow	N/A	Migratory	N/A	Species or species habitat may occur within area.

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Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Limosa lapponica</i>	Bar-tailed godwit	N/A	Migratory	N/A	Species or species habitat known to occur within area.
<i>Hydroprogne caspia</i>	Caspian tern	N/A	Migratory	N/A	Species or species habitat known to occur within area.
<i>Tringa nebularia</i>	Common greenshank	N/A	Migratory	N/A	Species or species habitat likely to occur within area.
<i>Actitis hypoleucos</i>	Common sandpiper	N/A	Migratory	N/A	Species or species habitat known to occur within area.
<i>Apus pacificus</i>	Fork-tailed swift	N/A	Migratory	N/A	Species or species habitat likely to occur within area.
<i>Thalasseus bergii</i>	Greater crested tern	N/A	Migratory	N/A	Breeding known to occur within area.
<i>Motacilla cinerea</i>	Grey wagtail	N/A	Migratory	N/A	Species or species habitat may occur within area.
<i>Sternula albifrons</i>	Little tern	N/A	Migratory	N/A	Species or species habitat may occur within area.
<i>Charadrius veredus</i>	Oriental plover	N/A	Migratory	N/A	Species or species habitat may occur within area.
<i>Glareola maldivarum</i>	Oriental pratincole	N/A	Migratory	N/A	Species or species habitat may occur within area.
<i>Pandion haliaetus</i>	Osprey	N/A	Migratory	N/A	Breeding known to occur within area.
<i>Sterna dougallii</i>	Roseate tern	N/A	Migratory	N/A	Breeding known to occur within area.
<i>Ardenna pacifica</i>	Wedge-tailed shearwater	N/A	Migratory	N/A	Breeding known to occur within area.

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Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Motacilla flava</i>	Yellow wagtail	N/A	Migratory	N/A	Species or species habitat may occur within area.

Table 4-12: Seabird and shorebird BIAs within the Operational Area and EMBA

Species	BIA type	Approximate distance and direction from Operational Area (km)
Roseate Tern	Breeding: Kimberley, Pilbara and Gascoyne coasts and islands including Ashmore Reef	47.8 km south-west
Fairy Tern	Breeding: Pilbara and Gascoyne coasts and islands	26.9 km south-west
Wedge-tailed Shearwater	Breeding: Kimberley, Pilbara and Gascoyne coasts and islands including Ashmore Reef	Overlaps
Lesser Crested Tern	Breeding: Kimberley, Pilbara and Gascoyne coasts and islands including Ashmore Reef	21.9 km west

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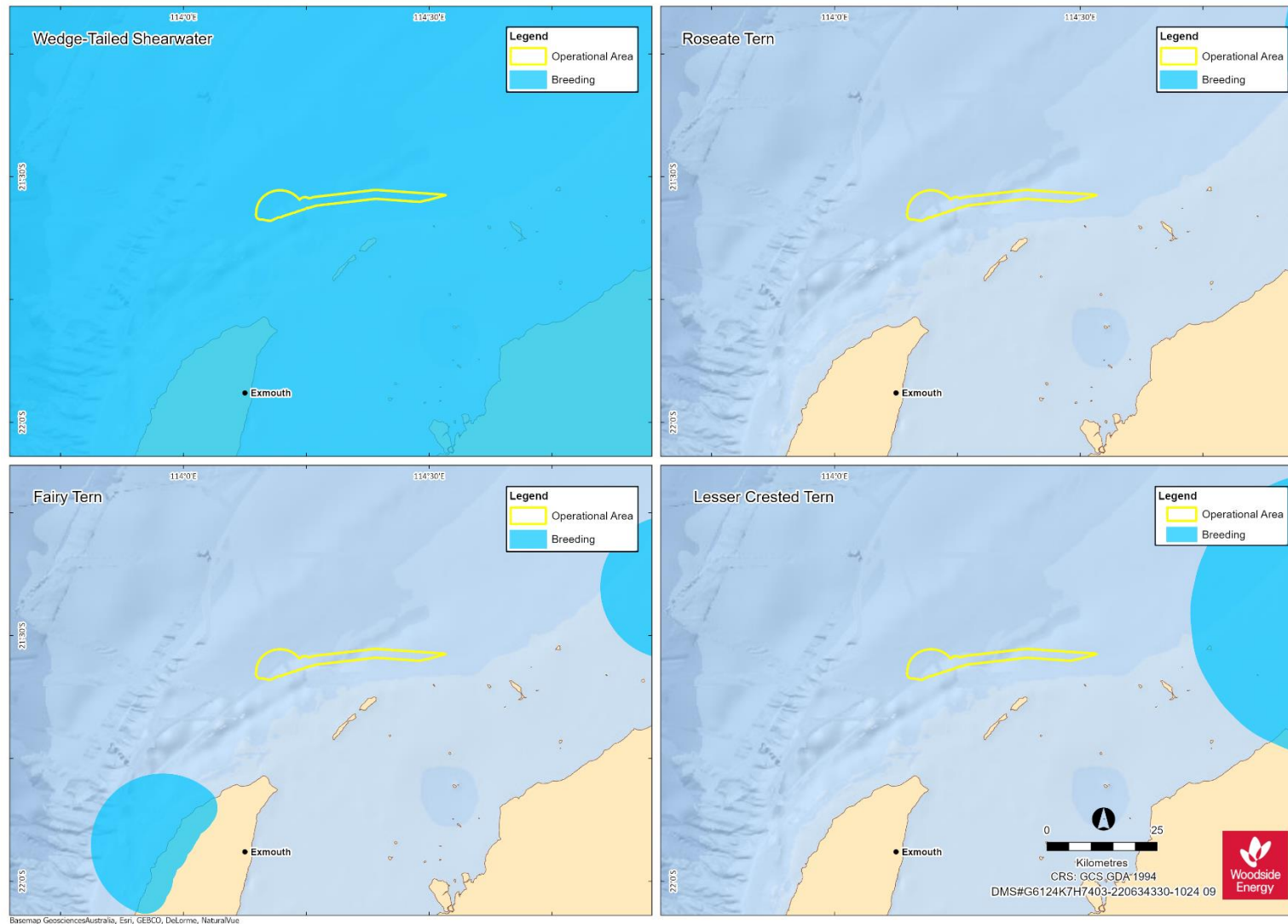


Figure 4-11: Seabirds BIAs overlapping and adjacent to the Operational Area

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4.6.5 Seasonal Sensitivities for Protected Species

Seasonal sensitivities for EPBC Listed threatened and/or migratory species identified as potentially occurring within the Operational Area or EMBA are identified in **Table 4-13**. Movement patterns of all protected species identified in **Section 4.6** are described in the Master Existing Environment.

Table 4-13: Key seasonal sensitivities for listed threatened migratory species identified as occurring within the Operational Area and/or EMBA

Species	January	February	March	April	May	June	July	August	September	October	November	December
Fish, sharks and rays												
Whale shark – northern and southern migration (NWMR) (TSSC, 2015d)												
Whale shark – foraging/ aggregation (Ningaloo Coast) (TSSC, 2015d)												
Great white shark – northern migration (to North West Cape) (DSEWPaC, 2013a)												
Marine reptiles³												
Flatback turtle, Pilbara Coast genetic stock – nesting												
Flatback turtle, Pilbara Coast genetic stock – hatching												
Green turtle, NWS genetic stock – nesting												
Green turtle, NWS genetic stock – hatching												
Hawksbill turtle Western Australia genetic stock – nesting												
Hawksbill turtle Western Australia genetic stock – hatching												
Leatherback turtle – nesting												
Leatherback turtle – hatching												
Mammals												
Fin whale												
Humpback whale – northern migration (Double et al., 2010; TSSC, 2015a)												

³ Information regarding seasonal occurrence of marine turtles has been taken from the Recovery Plan for Marine Turtles in Australia 2017-2027 (Commonwealth of Australia, 2017).

Species	January	February	March	April	May	June	July	August	September	October	November	December
Humpback whale – southern migration (Double et al., 2010; TSSC, 2015a)												
Sei whale – migration (DEH, 2005)												
East Indian Ocean (EIO) pygmy blue whale – northern migration (Double et al., 2012; 2014)												
East Indian Ocean (EIO) pygmy blue whale – southern migration (Double et al. 2012; 2014)												
Southern right whale – migration (DoE 2023)												
Seabirds and shorebirds												
Red knot – non-breeding season (NWMR) (TSSC, 2016a)												
Eastern curlew – non-breeding (NWMR) (DoE, 2015d)												
Curlew sandpiper – non-breeding season (NWMR) (DoE 2015)												
Southern giant petrel – non-breeding season (Australia) (DoE 2023)												
Indian yellow-nosed albatross – non-breeding season (Australia) (ACAP 2012)												
Campbell albatross – non-breeding season (Australia) (ACAP, 2012)												
	Species may be present in the Operational Area											
	Peak period. Presence of animals is reliable and predictable each year											

4.7 Key Ecological Features (KEFs)

Two KEFs overlap the Operational Area and three additional KEFs are in the EMBA. KEFs within the Operational Area and EMBA are identified in **Table 4-14** and described in the Master Existing Environment.

Table 4-14: KEFs within the Operational Area and EMBA

Key Ecological Feature	Approximate distance and direction from Operational Area (km)
Ancient Coastline at 125 m Depth Contour	Overlaps
Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula	Overlaps
Continental Slope Demersal Fish Communities	8 km west
Commonwealth waters adjacent to Ningaloo Reef	8.5 km south-west
Exmouth Plateau	91 km north-west

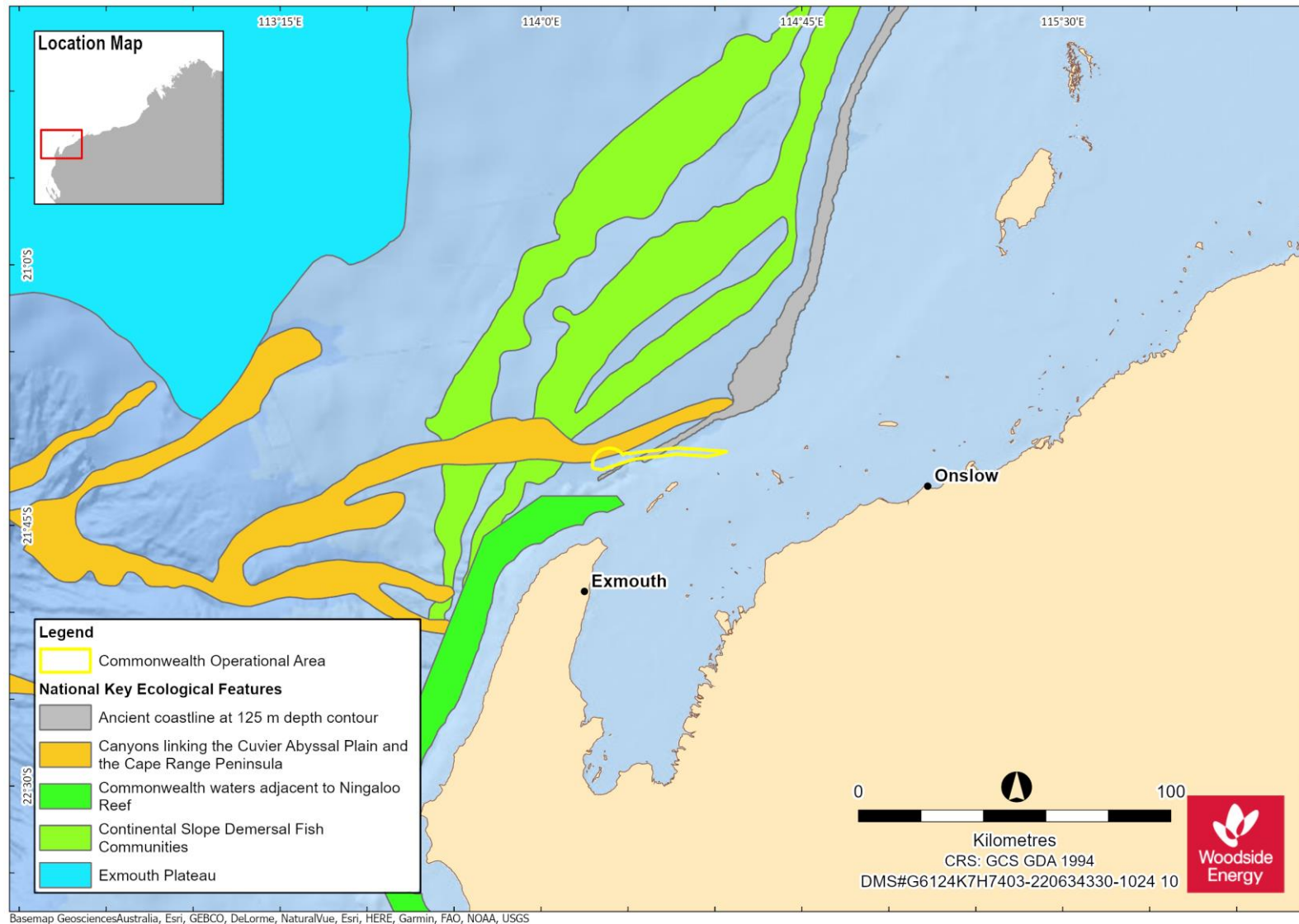


Figure 4-12: KEFs overlapping and adjacent to the Operational Area

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4.8 Protected Places

No protected places overlap the Operational Area. Protected places within the EMBA are identified in **Table 4-15** and presented in **Figure 4-13**.

The Master Existing Environment outlines the values and sensitivities of protected places and other sensitive areas in the EMBA.

Table 4-15: Established protected places and other sensitive areas overlapping the EMBA

	Approximate distance and direction from Operational Area to protected place or sensitive area (km)	Park zone and IUCN category* overlapping Operational Area and/or EMBA
AMPs		
Ningaloo Marine Park	8.4 km south-west	National Park Zone – II, Recreational Use Zone – IV
Gascoyne Marine Park	18 km west	Special Purpose Zone – VI, Recreational Use Zone – IV
Montebello Marine Park	108 km northwest	Special Purpose Zone – VI
State Marine Parks and Nature Reserves		
Marine Parks		
Ningaloo Marine Park	20.8 km southwest	Sanctuary Zone – IA, Recreational Use Zone – IV, Special Purpose Zone – VI
Barrow Island Marine Park	114.6 km northeast	Sanctuary Zone – IA
Marine Management Areas		
Muiron Islands Marine Management Area	3 km southwest	Special Purpose Zone – VI, Sanctuary Zone – IA
Barrow Island Marine Management Area	97 km northeast	Special Purpose Zone – VI
Nature Reserves		
Muiron Islands	8.7 km south	Sanctuary Zone – IA
Coastal Reserves		
Jurabi Coastal Park	24 km south	National Park Zone – II
Nationally Important Wetlands		
Cape Range Subterranean Waterways	22 km south	N/A

*Conservation objectives for IUCN categories include:

Ia: Strict Nature Reserve

Ib: Wilderness Area

II: National Park

III: Natural Monument or Feature

IV: Habitat/Species Management Area

V: Protected Landscape/Seascape

VI: Protected area with sustainable use of natural resources – allow human use but prohibits large scale development.

IUCN categories for the marine park are provided and, in brackets, the IUCN categories for specific zones within each Marine Park as assigned under the North-west Marine Parks Network Management Plan 2018 and South-west Marine Parks Network Management Plan 2018.

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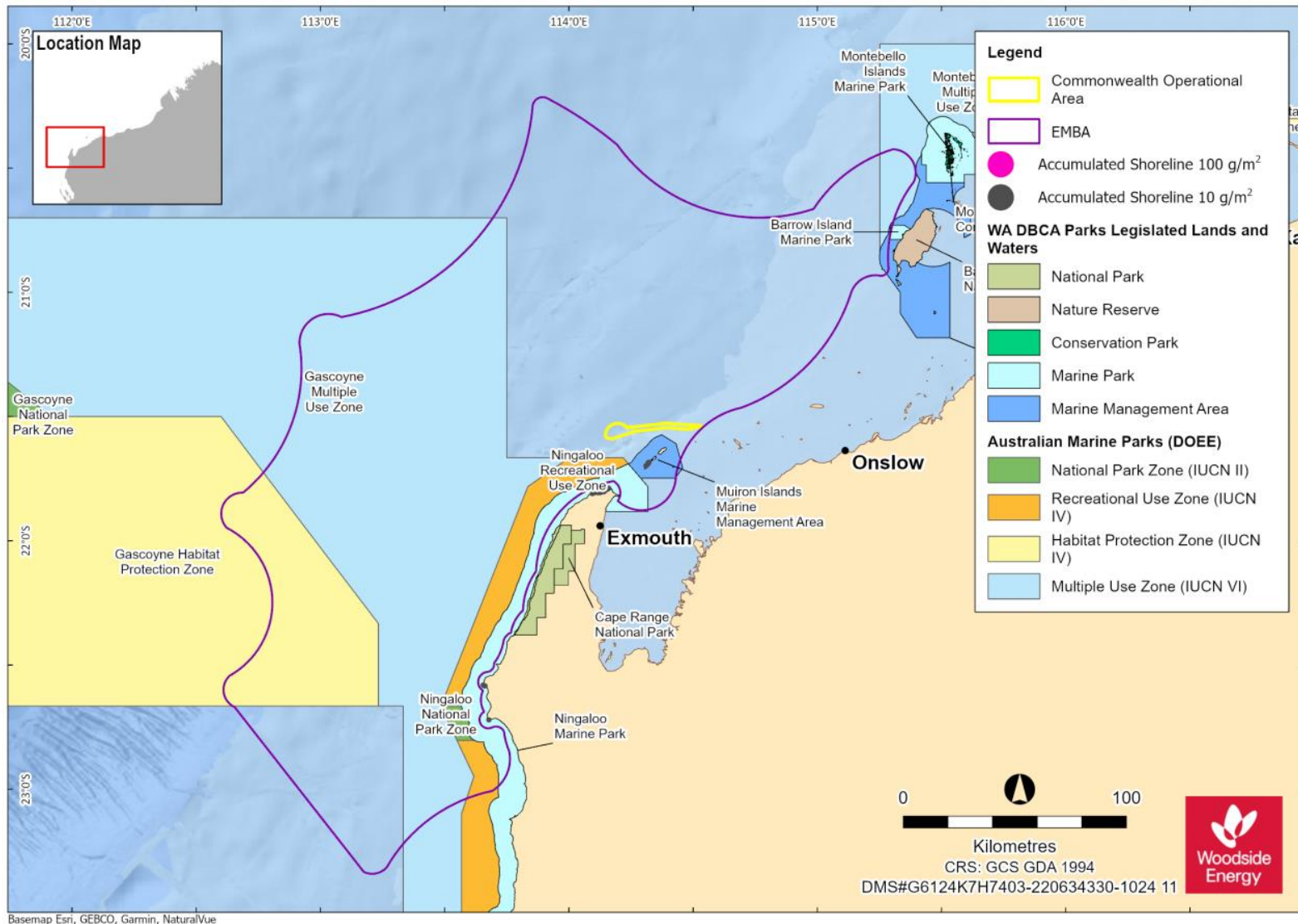


Figure 4-13: Protected areas adjacent to the Operational Area

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4.9 Socio-Cultural Environment

4.9.1 Cultural Values and Heritage Features

4.9.1.1 Background

Woodside recognises the 'environment' for the purpose of the evaluation required under the Environment Regulations includes:

- the heritage values of places; and
- the social, economic and cultural features of the broader environment.

In this section, the heritage value of places within the Operational Area and EMBA and the cultural features of the Operational Area and EMBA are described.

In line with The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (ICOMOS 2013) (Burra Charter) and associated practice notes, Woodside understands heritage value to refer to the cultural significance of a place to an individual or group. A cultural feature, by contrast, is understood to be comparable to the Burra Charter term "fabric" and refer to a place's elements, fixtures, contents and objects which have cultural values. Although these features are necessarily physical, the place they inhabit or comprise may have tangible or intangible dimensions (ICOMOS 2013).

Through consultation with relevant persons, Woodside recognises the deep spiritual and cultural connection to the environment⁴ that First Nations people hold.

4.9.1.2 First Nations Peoples

As a starting point for understanding social and cultural features of the environment for Indigenous (First Nations) groups, Woodside uses the existing systems, such as native title, to identify Indigenous groups that may have functions, interests or activities that may be affected. To that end, Woodside identifies native title representative bodies and nominated representative entities, as well as native title claims, determinations and Indigenous Land Use Agreements (ILUAs) which the EMBA overlaps. While acknowledging that cultural features and heritage values may exist outside of the native title framework, native title claims, determinations and ILUAs are defined under the Native Title Act 1993 (Cth). Woodside considers this to be the broadest extent over which Indigenous groups have claimed native title rights and interests.

Native title claims are applications made to the Federal Court under the Native Title Act for a determination or decision about native title in a particular area. A claim is made by a native title claim group which asserts it holds native title rights and interests in an area of land and/or water, according to its traditional laws and customs. By making a claim, the native title claim group seeks a decision that native title exists so that its native title rights and interests are recognised by the common law of Australia. This is called a native title determination. A determination is a decision by a recognised body, such as the Federal Court or High Court of Australia, that native title either does or does not exist in relation to a particular area (National Native Title Tribunal).

A requirement to establishing a positive determination of native title in court is proving that there is an organised society that occupied the land and/or waters at the time of British annexation. The

⁴Definition of 'Environment' in Regulation 4 of the OPPGS (Environment) Regulations are defined as:

- a) ecosystems and their constituent parts, including people and communities; and
- b) natural and physical resources; and
- c) the qualities and characteristics of locations, places and areas; and
- d) the heritage values of places; and includes
- e) the social, economic and cultural features of the matters mentioned in paragraphs (a), (b), (c) and (d)

requirement of an ‘organised society’ is set out by Justice Toohey in the historic judgment of *Mabo v Queensland (No 2)* [1992] HCA 23; (1992) 175 CLR 1 (‘Mabo’). Justice Toohey had the following to say (at 187):

it is inconceivable that indigenous inhabitants in occupation of land did not have a system by which land was utilized in a way determined by that society. There must, of course, be a society sufficiently organized to create and sustain rights and duties...

Therefore, Woodside understands that native title rights and interests are held communally by an organised society, that native title claims are understood to represent the area over which Indigenous groups are claiming these rights and interests, and that native title determinations provide clarity on where native title rights and interests are found to either exist or not exist. Where native title rights or interests are determined to exist they will be held by a Registered Native Title Body Corporate (section 57, Native Title Act 1993) in trust or as agent for native title holders.

ILUAs are voluntary agreements between native title parties and other people or bodies about the use and management of land and/or waters and are registered by the Native Title Registrar in the Register of ILUAs. An ILUA can be made over areas where:

- native title has been determined to exist in at least part of the area; or
- a native title claim has been made; or
- where no native title claim has been made.

While registered, ILUAs operate as a contract between the parties, including relevant native title holders (National Native Title Tribunal).

The Native Title Act provides for a Representative Aboriginal/Torres Strait Islander Body (Native Title Representative Body) to be recognised by the Commonwealth Minister for an area. Native Title Representative Bodies have specialist functions set out in the Native Title Act within the area for which they are the Native Title Representative Body. However, the functions of a Native Title Representative Body are such that they do not hold details on the cultural features or heritage values of an area and therefore do not inform Woodside’s understanding of heritage values or cultural features.

For the activity in this EP, there is one coastal ILUA overlapping the EMBA, and six native title claims and ILUAs coastally adjacent to the EMBA (see **Figure 4-14**).

4.9.1.3 Coastally Adjacent First Nations Groups

Woodside understands that Indigenous groups are keenly aware of the extent of their rights, interests and responsibilities for Country, and these are generally discrete, defined areas, including areas of sea (Smyth 2007). To identify cultural features and heritage values which may exist outside of native title claim, determination and ILUA areas, Woodside considers native title claims, determinations and ILUAs coastally adjacent to the EMBA to be an instructive means of identifying potentially relevant Indigenous groups to be consulted (See Appendix F).

That said, Woodside understands from engagement with relevant persons and/ or organisations, that extending a native title group’s responsibility to areas which those groups have elected to not include in their claims or ILUAs can have significant cultural consequences for Indigenous groups and individuals. This may also, over time, build expectations in the broader Indigenous community that a group is responsible for maintaining environmental values in areas for which they do not hold traditional knowledge. Woodside also acknowledges that an Indigenous group’s relative proximity to any Operational Areas or EMBA is not necessarily a meaningful indicator of the connection of Indigenous groups to the area, and providing advice over such areas can be culturally dangerous. As a result, caution must be used when conducting broader engagement.

A summary of native title claims, determinations and ILUAs overlapping or coastally adjacent to the EMBA is set out in **Table 4-16**. Claims and determinations have not been differentiated in this table, as it is acknowledged that either of these may indicate the existence of rights and interests.

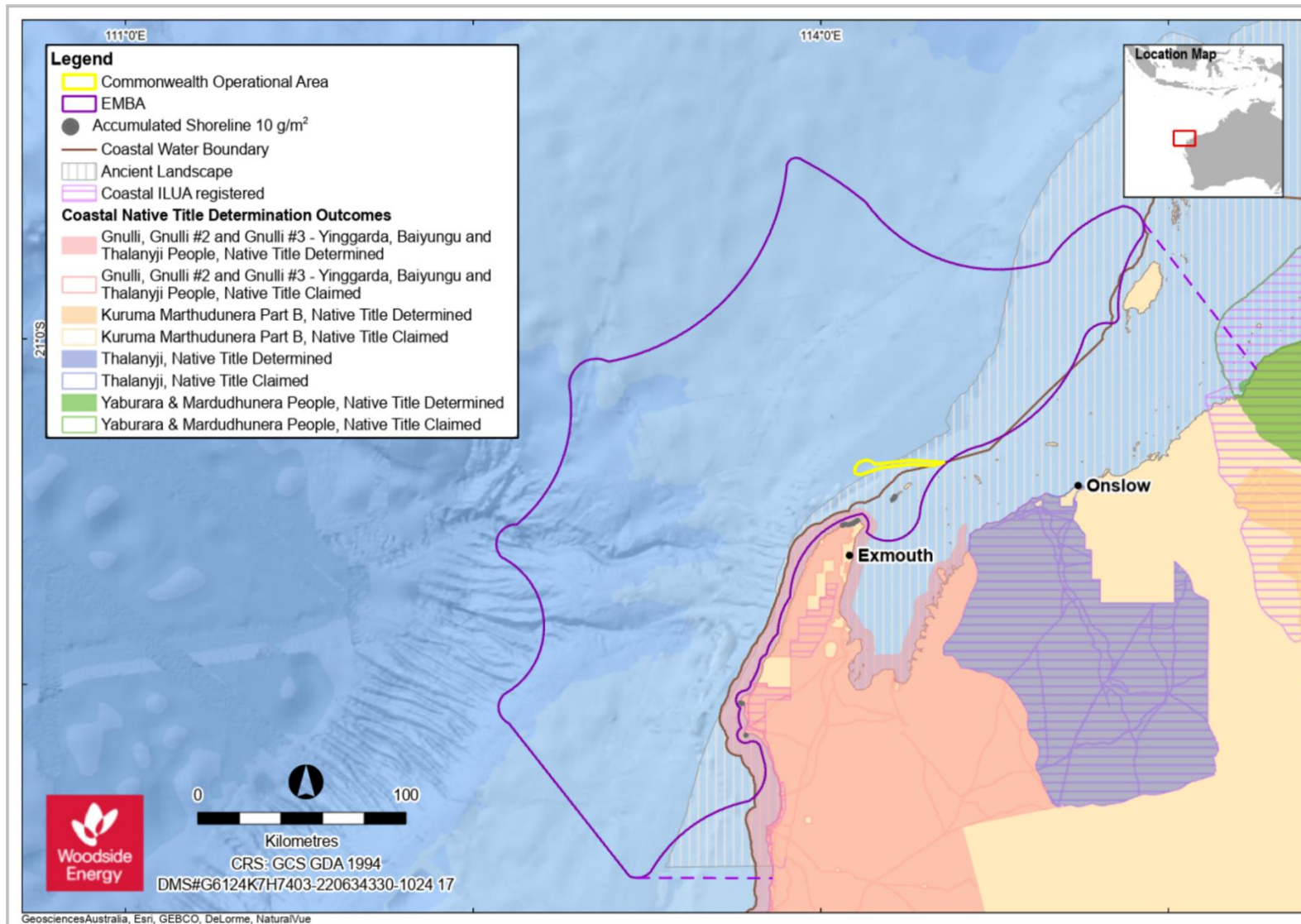


Figure 4-14: Operational Area and EMBA in relation to native title claims, determinations and ILUAs

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Table 4-16: Summary of Native Title Claim, Determinations and ILUAs which overlap or are coastally adjacent to the EMBA

Claim / Determination / ILUA	Registered Native Title Body Corporate	Overlap with EMBA	Coastally Adjacent to the EMBA
Native Title Claim or Determination			
Gnulli, Gnulli #2 and Gnulli #3— Yinggarda, Baiyungu and Thalanyji People	Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC), Yinggarda Aboriginal Corporation (YAC)	No	Yes
Yaburara & Mardudhunera People	Wirrawandi Aboriginal Corporation (WAC)	No	Yes
Thalanyji	Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	No	Yes
ILUA			
KM & YM Indigenous Land Use Agreement 2018	WAC, Robe River Kuruma Aboriginal Corporation (RRKAC)	No	Yes
RTIO Kuruma Marthudunera People ILUA	RRKAC	No	Yes
Ningaloo Conservation Estate ILUA	NTGAC	Yes	No
Kuruma Marthudunera and Yaburara and Coastal Mardudhunera ILUA	No representative body specified	No	No
Macedon ILUA	BTAC	No	Yes

4.9.1.4 Marine Parks

Woodside acknowledges that Commonwealth and State Marine Park Management Plans have sought to recognise cultural values of First Nations groups. Australian Marine Parks (AMP) describe this framework in the following way: ‘when making decisions about what can occur in marine parks and what action we will take to protect AMPs, we take values into account’ (Parks Australia, n.d.). AMP summarises these values as natural values, cultural values, heritage values and socio-economic values. Woodside is triggered to undertake an assessment of cultural values within Marine Park Management Plans where the operational area or EMBA overlaps an AMP. Woodside considers the management plans of AMPs that overlap the Operational Area and the EMBA to determine whether cultural features and heritage places have been identified and whether there are specified representative bodies referenced to contact regarding potential cultural features and heritage places.

The Operational Area does not overlap any AMPs. The EMBA overlaps with features of the Gascoyne, Montebello and Ningaloo AMPs managed under the North-West Marine Parks Network Management Plan 2018. The EMBA overlaps a further four State Marine Parks or Marine Management Areas. Where these plans specify identifiable representative bodies who may hold knowledge of heritage values or cultural features—including but not limited to Registered Native Title Bodies Corporate—these bodies are consulted (see Appendix F). Consultation with these groups may identify heritage values and cultural features beyond those addressed in the marine park management plans.

The North-West Marine Parks Network Management Plan 2018 notes for the Gascoyne, Montebello, and Ningaloo AMPs that the Yamatji Marlpa Aboriginal Corporation (YMAC) is the relevant Native Title Representative Body. The Ningaloo Marine Park and Muiron Islands Marine Management Area

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Management Plan notes that at the time of preparing the plan a Native Title Claim over the North-West Cape area was on foot. The management plan refers to the Yamatji Barna Baba Maaja Aboriginal Corporation (now Yamatji Marpa Aboriginal Corporation (YMAC)) as representing the claimants. YMAC has been consulted regarding this EP in their function as a Native Title Representative Body, as outlined in Appendix F in this EP. Consultation with YMAC included discussion of the Traditional Custodians who may hold knowledge of heritage values or cultural features (See Appendix F).

Table 4-17: Summary of Commonwealth and State Marine Park Management Plan EMBA overlap

Marine Park Management Plan	EMBA Traditional Custodian Group Overlap
Commonwealth Marine Park Management Plan	
Gascoyne AMP	Yes – however no Traditional Custodian group specified.
Montebello AMP	Yes – however no Traditional Custodian group specified.
Ningaloo AMP	Yes – however no Traditional Custodian group specified.
State Marine Park Management Plan	
Barrow Island Marine Park	Yes – however no Traditional Custodian group specified.
Barrow Island Marine Management Area	Yes – however no Traditional Custodian group specified.
Muiron Islands Marine Management Area	Yes – however no Traditional Custodian group specified.
Ningaloo Marine Park	Yes – however no Traditional Custodian group specified.

Sea country values noted in the AMP management plans are addressed in **Section 4.9.1.5**

Management plans for the AMPs note shipwrecks within the AMPs and overlap with World, National and Commonwealth heritage lists. These are addressed in **Sections 4.9.1.10 and 4.9.1.11** below.

Management of cultural features within marine ecosystems, including food sources, is discussed in **Section 4.9.1.5**.

The Management Plan for the Ningaloo Marine Park and Muiron Islands Marine Management Area 2005 – 2015: Management Plan Number 52 (relating to the Muiron Islands Marine Management Area and Ningaloo Marine Park) notes the aesthetic values of the seascape as a cultural value and that “Panoramic vistas of turquoise lagoon waters, reefs, beaches, breaking surf and the blue open ocean beyond the reef line are major attractions of the reserves.” In particular the plan notes that “Inappropriate structures along the coastline, on the islands and in the surrounding waters have the potential to degrade the aesthetic values of the reserves. Coastal developments and maritime infrastructure projects must therefore be planned with careful consideration of this issue.” As the activity described in this EP does not include the addition of any structures within these parks, no impacts on the aesthetic values of these parks are anticipated.

A number of management plans for the state marine parks also note Indigenous and maritime heritage within the marine parks generally. These are addressed in **Section 4.9.1.11** below.

4.9.1.5 Sea Country Values

‘Sea country’ can be defined as the area of sea over which an Indigenous group has interests, cultural value, connection and use. It has been noted that “the saltwater peoples of the north-west are associated with discrete clan estates or tribal areas, often referred to in contemporary Aboriginal English as ‘saltwater country’ or ‘sea country’. Country’ refers to more than just a geographical area: it is shorthand for all the values, places, resources, stories and cultural obligations associated with that geographical area.” (Smyth 2007). In the management plans for all three AMPs listed in Section

4.9.1.4 it is noted that “Sea country is valued for Indigenous cultural identity, health and wellbeing” (DNP 2018). Cultural identity is understood to refer to the fact that “essence of being a ‘Saltwater’ person is ontological rather than merely technological. That is, it is about how people relate spiritually to the sea and engage with spiritual forces that created it, the marine flora and fauna and people” (McDonald and Phillips, 2021). It necessarily follows that an impact to marine ecosystems has the potential to impact cultural features where the impact is detectable within sea country—the seascape which Traditional Custodians view, interact with or hold knowledge of.

Woodside recognises the potential for marine ecosystems to include cultural features as well as environmental values. This is one aspect of the broader concept of “sea country”, which can be defined as the area of sea over which an Indigenous group has interests, cultural value, connection and use. It has been noted that “the saltwater peoples of the north-west are associated with discrete clan estates or tribal areas, often referred to in contemporary Aboriginal English as ‘saltwater country’ or ‘sea country’. ‘Country’ refers to more than just a geographical area: it is shorthand for all the values, places, resources, stories and cultural obligations associated with that geographical area.” (Smyth, 2007). It necessarily follows that an impact to marine ecosystems has the potential to impact cultural values where the impact is detectable within sea country—the seascape which Traditional Custodians view, interact with or hold knowledge of. The link between environmental protection and cultural heritage protection is illustrated in the Australian Government’s Indigenous Protected Areas Program. The Indigenous Protected Areas program provides for “areas of land and sea managed by Indigenous groups as protected areas for biodiversity conservation...IPAs deliver environmental benefits...Managing IPAs also helps Indigenous communities protect the cultural values of their country for future generations...” (DCCEEW, 2023).

McNiven (2004) suggests that “For those mainland groups whose exploitation of the sea was limited to littoral resources, it is likely that seascapes extended no more than c. 20–30km out to sea, out to the horizon and the limit of human visibility. ... However, in some coastal places, clouds that can be seen well over 100km out to sea are imbued with spiritual significance. For those groups with elaborate canoe technology, seascapes extend well over the horizon.” While there is some evidence of traditional watercraft in Australia’s North West, the recorded evidence is limited to travel across inland rivers (e.g. Barber and Jackson 2011) or travel between coastal islands (Paterson et al 2019). The process for identifying Indigenous groups who may have interests and connection in Sea Country are set out in **Section 5**. The scope of advice Traditional Custodians were encouraged to provide through project consultation was not limited by reference to any particular boundaries or limits of sea country.

Cultural features of coastal areas may include marine species that may travel many thousands of kilometres through areas with similar cultural values to multiple Indigenous language groups. Some species may travel as far as 5,000 km from Antarctica to the Kimberley region of Western Australia (Double et al., 2010, 2012a), passing Indigenous language groups along the entire west coast of Australia. Distribution and migratory patterns of migratory species are described in **Section 4.6**.

Sea country values have been defined using multiple lines of evidence including:

- Desktop assessment of sea country values from publicly available sources
- Indigenous archaeological heritage assessment
- Consultation with First Nations groups and individuals.

The processes for identifying First Nations groups who may have interests in and connections to Sea Country are set out in Sections 4.9.1.3 and Section 5.3.

4.9.1.6 Desktop Assessment of Sea Country Values

Cultural Features and Heritage Values identified in publicly available literature

Publicly available sources were assessed for any records of previously identified Sea Country values or cultural features that may overlap with the Operational Area or EMBA. Where cultural features or

Sea Country values were identified these are summarised in Table 4-18 according to the First Nations groups (where identified or inferable) who hold these values.

All cultural features and heritage values restricted to onshore locations or inland waters have been excluded in Table Table 4-19. Where the geographical extent of cultural features and heritage values is not specified or unclear, those features and values have been included in the table for completeness.

Table 4-18: Cultural Features and Heritage Values identified in publicly available literature

First Nations Group	Features and Values	Source	Potential for overlap	
			Operational Area	EMBA
Gnulli (Baiyungu, Thalanyji, Yinggarda)	Feature: resources including marine animals. Value: traditional knowledge holds that ancestors live on the land and in the water. Therefore, people have obligations to access and care for these places (e.g., keeping them clean).	Peck on behalf of the Gnulli Native Title Claim Group v State of Western Australia [2019] FCA 2090	Possible (unspecified) Possible (unspecified)	Possible (unspecified) Possible (unspecified)
	Feature: heritage sites in the Ningaloo region include shell middens, artefact scatters, skeletal material/burial sites, camps, meeting places, hunting places and water sources. Feature: resources including gajalbu (emu), bundgurdi (kangaroo), bardurra (bush turkey), majun (marine turtles), turtle eggs, bilygurumarda (osprey), fish, shellfish and plants. Feature: mudflats, mangroves and sand dunes provide a critical breeding ground for marine and terrestrial wildlife. Value: the Ningaloo region contains cultural heritage dating back at least 32,000 years, including ceremonial Thalu sites. Value: connection to Country is important to the Traditional owners' spirituality and religion. Value: caring for Country - "The southern coastal reserves along the Ningaloo Coast are jointly managed by Traditional Owners and the DBCA. The Joint Management Body ensures that the Traditional Owners have an opportunity to make decisions about environmental management and land use". This document also includes information that is marked that cannot be copied, reproduced or used without consent.	DBCA 2020	No Possible (turtles, fish) No (other resources) No No Possible (unspecified) No	Possible (Shoreline accumulation areas) Possible (turtles, turtle eggs, fish, shellfish) No (other resources) Possible (mangroves) Possible (unspecified, but likely refers to onshore areas) Possible (unspecified, but likely due to location of EMBA) Yes
	Feature: resources including mangrove crabs, gastropods, shellfish, dugong, turtle.	Morse 1993.	Possible (turtles, dugong) No (other resources from a cultural context)	Possible (all)
Thalanyji	Feature: resources including fish, shellfish, crabs, crustaceans, sea urchins, turtle, dugong and flora and fauna associated with mangrove communities. Feature: archaeological sites on Barrow Island. Value: connection to Country.	Commonwealth of Australia 2002.	Possible (fish, turtle, dugong, invertebrates) No Possible (unspecified)	Possible (fish, turtle, dugong, invertebrates) No (No shoreline contact with Barrow Island) Possible (unspecified)

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	Feature: resources include turtles, eggs, fish, shellfish and plants.	DBCA et al. 2002.	Possible (fish, turtle)	Possible (fish, turtle, eggs, shellfish)
	Value: traditional knowledge recalls a water snake is located in inland waters.	Hayes on behalf of the Thalanyji People v State of Western Australia [2008] FCA 1487	No (inland waters)	No (inland waters)
	Value: connection to Country. Value: transfer of knowledge. Value: access to Country.	DBCA 2022	Possible (unspecified) Possible (unspecified) Possible (unspecified)	Possible (unspecified) Possible (unspecified) Possible (unspecified)
	Value: access to Barrow and possibly Montebello Islands	Hook et al. 2004.	No	No (No shoreline contact with Barrow Island or Montebello Islands)
	Feature: artefact scatters are located in coastal sand dunes. Feature: burials are located in coastal sand dunes. Value: traditional knowledge recalls a water snake is located in inland waters.	Hook 2020.	No No No	Possible (Shoreline accumulation areas) Possible (Shoreline accumulation areas) No
	Feature: archaeological sites are located on Barrow Island.	Ditchfield et al. 2018 Paterson 2017	No	No (No shoreline contact with Barrow Island)
	Feature: archaeological sites are located at Barrow and Montebello Islands. Feature: archaeological evidence of the use of resources including fish, turtles, marine mammals, crocodiles, crabs and sea urchins.	Dortch et al. 2019.	No No	Possible (No shoreline contact with Barrow Island or Montebello Islands) Possible (submerged, highly unlikely for most evidence of faunal use to survive inundation)
	Feature: thalu ceremonial sites for the increase of turtle, shark, ray, fish, squid, octopus, hill kangaroo and emu. Feature: ceremonies. Value: connection to Country. Value: transfer of knowledge. Value: access to Country.	DBCA 2022	No No Possible Possible Possible	No (ceremonial use) Possible (submerged thalu sites e.g., petroglyphs) No Possible Possible Possible
Unspecified	Feature: the ocean can include sacred sites and songlines. Value: people have kin relationships to important animals, plants tides and currents.	Smyth 2008	Possible (unspecified) Possible (unspecified)	Possible (unspecified) Possible (unspecified)
	Feature: archaeological sites in submerged landscapes.	Bradshaw 2021.	No	Possible

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	Value: sea country has customary law defining ownership and management rights and responsibilities.	Muller 2008.	Possible (unspecified)	Possible (unspecified)
	Value: knowledge of Sea Country Value: connection to Sea Country Value: care for Sea Country Value: the extent of Sea Country is determined by the travels of dreaming ancestors. This is recorded and conveyed through songlines.	Kearney et al 2023.	Possible (unspecified) Possible (unspecified) Possible (unspecified) Possible (unspecified)	Possible (unspecified) Possible (unspecified) Possible (unspecified) Possible (unspecified)
	Feature; archaeological sites indicate that islands were occupied prior to sea level rise.	DBCA 2020	No	Possible (submerged)
	Value: sea country includes values, places, resources, stories and cultural obligations. Value: activities relating to resources included: • Dugong hunting; • Turtle hunting; • Turtle egg collecting; • Seabird egg collecting; • Spearing fish; • Reef trapping fish; • Herding fish; • Line fishing; • Collecting fish in stone fish traps; • Poisoning fish; • Gathering shellfish and other marine resources.	Smyth 2007	Possible Possible (activities and fauna present)	Possible Possible (activities and fauna present)
	Value: people have kinship relationships with every plant and animal. Value: certain species, including fish and seafood, must not be eaten during initiation rituals due to their sacredness to the creation being Barrimirndi. Breaking this law may lead to cyclones.	Juluwarlu 2004	Likely to occur No	Likely to occur No
	Feature: tangible and intangible heritage. Feature: archaeological evidence of varied occupation and adaptation. Value: a distinct way of life centred around the use of limited water and coastal resources.	Macfarlane and McConnell 2017	Possible (unspecified) No No	Possible (unspecified) Possible (submerged, highly unlikely for most evidence of faunal use to survive inundation) Possible (unspecified)

4.9.1.7 Indigenous Archaeological Heritage Assessment

Woodside understands that communal cultural connection may exist between Traditional Custodians and land and waters. It is understood from the onshore archaeological record that First Nations people have occupied the Australian continent for at least 65,000 years (Clarkson et al 2017) and in many places maintain a strong continuing connection that is said to extend back in Indigenous cosmology to the beginning of time.

It is understood that the sea level has risen significantly during the 65,000 years of First Nations occupation, and areas that were once inhabited are now submerged on the continental shelf (Veth et al 2019; UWA 2021). The Ancient coastline KEF at 125 m depth contour represents the lowest sea level during Indigenous occupation (O’Leary et al., 2020; see also Williams et al., 2018; UWA, 2021). Archaeological material preserved on the Ancient Landscape has the potential to provide further information about the earliest periods of human occupation (Veth et al 2019; UWA 2021).

Recent archaeological discoveries demonstrate that the now submerged landscape was occupied and inhabited, and can retain archaeological material from this time (Benjamin et al, 2023, Benjamin et al, 2020; see Ward et al 2022 for an opposing view).

In recognition of this, Woodside considers the Ancient Landscape between the mainland and the Ancient coastline KEF (see Figure 4-12) as an area where potential First Nations archaeological material may exist on the seabed, as this covers the full extent of this possible First Nations occupation. Known First Nations heritage places including archaeological sites may be protected under the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*, *Underwater Cultural Heritage Act 2018* or EPBC Act 1999. However, these Acts only extend protection to heritage places specified by declaration or otherwise included on a statutory list. Woodside understands that there is no Indigenous archaeology known to exist anywhere within Commonwealth waters and no declarations or prescriptions under these Acts are located within the EMBA.

The Operational Area overlaps the ancient landscape. Prior to any planned seabed disturbance taking place, a desktop assessment of the potential for First Nations (and non-First Nations) Underwater Cultural Heritage will be completed, as per C4.1.

The Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Inquiry system was searched for the EMBA, which indicated two Registered or Lodged Aboriginal Sites (Appendix H). The exact location, access, and traditional practices for a number of these sites may not be disclosed and if required, such as in the event of a major oil spill, would involve prioritising further consultation with key contacts within Western Australian Department of Aboriginal Affairs (DAA) and relevant local Aboriginal communities.

No sites of significance within the Operational Area or EMBA were identified by Traditional Custodians during the course of preparing the EP.

Should feedback be received (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see **Section 7.2.3**).

Where Indigenous archaeological material is identified within the EMBA, Woodside will discuss the management of this material with appropriate Traditional Custodian group(s), starting with any adjacent Native Title Body Corporate.

4.9.1.8 Consultation Feedback to Inform Existing Environment

Summary of values raised during consultation

A summary of the topics/interests and values raised by First Nations groups through consultations on the activities under this EP, general Scarborough Project activities, or other activities is provided in Table 4-19.

First Nations cultural values are communally held. This is reflected in Vision 3 of Dhawura Ngilan that “Aboriginal and Torres Strait Islander heritage is managed... according to community ownership” (Heritage Chairs of Australia and New Zealand 2021). Dhawura Ngilan also specifically notes that “Aboriginal and Torres Strait Islander... intangible knowledge systems, which are held in songlines and language, are endangered. This knowledge is held by Elders and the community...” Through consultation, Registered Native Title Bodies Corporate and nominated representative corporations have identified or raised topics relating to environmental values of cultural interest. Woodside recognises the deep spiritual and cultural connection to the environment that First Nations people hold.⁵

The Program of Ongoing Engagement with Traditional Custodians (**Appendix G**) provides a mechanism for ongoing dialogue between Woodside and Traditional Custodians, beyond that required by regulation 25. The program enables Woodside to manage the potential impacts and risks to cultural values which may be identified at any time during Woodside’s activities via ongoing dialogue with Traditional Custodians. Should feedback be received (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see **Section 7.2.3**).

⁵ Definition of ‘Environment’ in Regulation 4 of the OPPGS (Environment) Regulations are defined as:

- a) ecosystems and their constituent parts, including people and communities; and
- b) natural and physical resources; and
- c) the qualities and characteristics of locations, places and areas; and
- d) the heritage values of places; and includes
- e) the social, economic and cultural features of the matters mentioned in paragraphs (a), (b), (c) and (d)

Table 4-19: Feedback Received via Consultation to Inform Existing Environment Description

Relevant Indigenous Group /Individuals	Consultation context	Description of Value	Potential for overlap	
			Operational Area	EMBA
BTAC representing some of the Gnulli native title claimants (Baiyungu and Thalanyji people)	Raised in context of other Woodside activities	Cultural obligation to care for the environmental values of Sea Country <i>Sea Country extends "out to the vast islands off the coast of the Pilbara, including the Monte Bello Islands, Barrow Island, and the Mackerel Islands"</i>	Possible (unspecified)	Possible (unspecified)
Nganhurra Thanardi Garrbu Aboriginal Corporation representing Baiyungu and Thalanyji people	Raised during consultation on this activity and other Woodside activities	Whales Whale sharks Marine parks	Likely to occur (whale) No No	Known to occur (whale) Known to occur Yes (Gascoyne AMP)
Robe River Kuruma Aboriginal Corporation (RRKAC)	Raised in context of other Woodside activities	Underwater heritage	Possible	Possible
Wirrawandi Aboriginal Corporation representing Ngarda-Ngarli (Mardudhunera and Yaburara)	Raised in context of other Woodside activities	Whales Turtles Underwater heritage Rock Art	Likely to occur Likely to occur Possible No	Known to occur Known to occur Possible No
Yamatji Marlpa Aboriginal Corporation (YMAC)	No values raised	-	-	-
Yinggarda Aboriginal Corporation representing Yinggarda People.	Raised during consultation on this activity and other Woodside activities	Whales Shark Bay Mullet Dugong Seagrass being food source for Dugong	Likely to occur No (coastal species) No No (refer to Table 4-4)	Known to occur No (coastal species) No No (refer to Table 4-4)

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Further Information regarding Thalanyji Sea Country values

During consultation other Woodside Environment Plans, BTAC, on behalf of the Thalanyji People, advised it has a cultural obligation to care for the environmental values of Sea Country (refer to Appendix F, Table 1).

In correspondence from 20 February 2023 relating to the Scarborough Project, BTAC advised that:

- BTAC seeks support from Woodside to enable BTAC to define and articulate its values on Sea Country in a manner that could be more clearly understood by the offshore sector, government, and the community. This would enable BTAC and Woodside to collaborate to develop effective management plans that can provide adequate protection to Sea Country values; and
- BTAC seeks support from Woodside to obtain technical support to review the information and provide BTAC and its members with feedback on the project risks to Sea Country and help BTAC contemplate the potential management controls that could be developed to protect its values and interests

These requests do not constitute a request for ethnographic survey. Woodside has agreed to BTAC's request, and the resulting offer of technical support is detailed in Appendix F, Table 1. However, Woodside's offer for technical support is still being assessed by BTAC.

BTAC noted that this Sea Country extends "out to the vast islands off the coast of the Pilbara, including the Monte Bello Islands, Barrow Island, and the Mackerel Islands." In the absence of further advice from BTAC, Woodside understands from this description that BTAC's interests extend to the Montebello Marine Park Multiple Use Zone in the vicinity of the islands.

While an ethnographic survey has not been requested by BTAC, a review of publicly available literature has been undertaken to seek clarity on the extent of Sea Country for Thalanyji people. This review identified a number of heritage research projects undertaken for the Montebello and Barrow Islands which acknowledge the support of BTAC (e.g., Manne and Veth 2015, Veth et al. 2017), though no information regarding Sea Country values, or the extent of Sea Country, were identified.

Publicly available heritage assessment reports elsewhere on Thalanyji Country tend to rely on established native title boundaries (e.g., Chisholm 2013) or draw on historic maps, particularly those compiled by Norman Tindale and published in 1947 (e.g., Hook et al. 2020). An early 1940's map by Tindale shows "Talaindji" (Thalanyji) Country as exclusively terrestrial and further west than areas typically recognised today as Thalanyji Country (Tindale 1940). This map also shows the Noala people as custodians of the Onslow area and defines Barrow and the Montebello Islands as "Mardudunera" (Mardudhunera) Country—it is unclear from the map if the boundary of Mardudhunera is proposed to represent an extent of Sea Country, or merely note that these islands are part of Mardudhunera Country.

A further refined version of this map was produced in 1974 which shows "Talandji" in a location more closely aligned with contemporary understanding of Thalanyji Country and removes the apparent extent of Mardudhunera over Barrow and the Montebello Islands (Tindale 1947). This definition of Thalanyji Country is still confined to the mainland in this map.

A more contemporary attempt at mapping traditional country is shown in The AIATSIS Map of Indigenous Australia (Horton 1996). This map similarly confines Thalanyji Country to terrestrial areas west of Onslow and leaves Barrow and the Montebello Islands unmarked as an area with "No published information available". It is also noted that "This map is based on data collected up to 1994 and is not intended to show precise areas or boundaries" (Horton 1996).

Collective assessments of Sea Country in the Pilbara (Lincoln and Hedge 2019, YMAC et al. 2010) were also found to rely on existing native title boundaries. It is noted in the Pilbara Sea Country Plan (YMAC et al. 2010) that:

Although some differences remain, between and among native title groups, there is now a general sense that most groups have coalesced into final forms that will, in future, be the groups that exercise rights and interests in their respective areas. many of these rights and interests will relate directly to native title. however, there is also a more broadly based appreciation of the need to accept and discharge responsibilities for land and marine management within native title areas regardless of whether native title per se is affected. (YMAC et al. 2010, emphasis added).

The office of the Registrar of Indigenous Corporations records four corporations using the name Thalanyji:

- Buurabalayji Thalanyji Aboriginal Corporation
- Buurabalayji Thalanyji Aboriginal Corporation RNTBC
- Onslow Thalanyji Aboriginal Corporation
- Wurrumalu Thalanyji Aboriginal Corporation

The only currently operative organisation, and the only organisation with an identified website, is Buurabalayji Thalanyji Aboriginal Corporation RNTBC. This website states that "Thalanyji Country spreads out across the Ashburton River coastal plain south to Tubridji Point, then across to Yannarie River and upstream to Emu Creek, across the range hills of southwest Pilbara to Henry River and Cane River in the north." (BTAC 2021) This description includes coastal areas but provides no description of the extent of Sea Country.

A search of the National Native Title Tribunal register of applications and determinations identified four historic Native Title claims with the name Thalanyji:

- Thalanyji People (WC1995/002)
- Thalanyji People #2 (WC1996/082)
- Thalanyji (WC1999/045)
- Thalanyji 2 (WC2010/004)

Most of these claims were dismissed, and Woodside makes no assessment of the merits of these claims.

The area of WC1995/002, as defined in the map forming Attachment 1 to the Native Title Application, does not include any areas of Sea Country.

WC1996/082 does not include a publicly available map on the National Native Title Tribunal website. The Native Title Application does describe the area covered by the claim, including "This country extends from the Tubridji Point on the coast south west of Onslow and tracking south to Yanarrie River." and "The area also includes the waters and associated islands between Tubridji point and Cane River. These islands were visited by Thalanyji People." The extent of this Sea Country from the coast is unclear, but would presumably include islands as distant as Airlie Island, approximately 30 km from the shore.

The area of WC1999/045, as defined in the map forming Attachment C to the Native Title Application, includes an area of water extending approximately 30 km from the mainland coast in encompassing a number of islands, including:

- Airlie Island

- Ashburon Island
- Bessieres Island
- Direction Island
- Flat Island
- Locker Island
- Round Island
- Serrurier Island
- Table Island
- Thevenard Island
- Tortoise Island, and
- the Twin Islands

The area also includes the south-most of the Mangrove Islands, but does not include the other Mangrove Islands.

The area of WC2010/004, as defined in the map forming Attachment C to the Native Title Application includes localised areas of sea up to approximately 5 km beyond the coast.

Woodside has developed a robust understanding of Thalanyji Sea Country cultural values and heritage features through publicly available information (Section 4.9.1.6) and consultation with BTAC under regulation 25. Woodside considers that it has taken all reasonable and practicable steps to identify cultural features and heritage values of Thalanyji people in the EMBA.

If further guidance from BTAC is received as part of ongoing consultation which changes Woodside's understanding of the extent of Thalanyji Sea Country, Woodside's Management of Change process (Section 7.2.3) will be applied to manage potential impact to newly identified cultural values or features to ALARP and Acceptable levels. This estimation does not limit the extent of consultation with BTAC or the features and values they are encouraged to identify and communicate.

Summary of cultural features and heritage values

Woodside has developed a robust understanding of cultural features and heritage values relevant to the activity through examination of publicly available information, studies and consultation with relevant persons under regulation 25. Sections 4.9.1.6, 4.9.1.7 and 4.9.1.8 confirm whether there is any potential for these to exist within the Operational Area or EMBA. As previously described, topics which have been raised in the context of an interest linked to the natural environment are impact and risk assessed in Section 6.6 and 6.7.

As cultural features are physical elements of a place, these can generally be assessed for impacts; where a feature is avoided, it is not impacted. Heritage values relate less to what is significant and more to why something is significant; interaction between heritage values and the PAA can only be reliably informed by consultation with Traditional Custodians where they are willing to share the necessary knowledge. Assessment of heritage values beyond cultural features alone is addressed in Section 6.9 subject to these caveats.

Further context: Archaeological heritage

Assessment of the PAA has not identified archaeological sites. Consultation with Traditional Custodians has not identified any First Nations cultural features or heritage values specifically associated with the PAA.

No archaeological sites have been identified beyond terrestrial or intertidal areas, except for two sites at Murujuga in Cape Bruguieres channel and Flying Foam Passage (Benjamin et al. 2020; Benjamin et al 2023), which are outside of the EMBA. However, it is recognised that there is the potential for submerged archaeological sites on the Ancient Landscape which is overlapped by the EMBA.

Archaeological sites identified onshore with the potential to exist in intertidal or submerged locations include petroglyphs, fish traps and artefact scatters or burials contained within sand dunes. As archaeological sites, these features have archaeological value which relates to the preservation of their fabric (i.e. the tangible features) and their context (i.e. their location and relationship to other archaeological and natural features). Archaeological sites may also have intangible dimensions (ICOMOS 2013). Cultural values that exist in addition to their archaeological or scientific value and are assessed separately.

Publicly available literature also noted traditional knowledge for underwater waterholes (Kearney et al 2023). In addition to the non-archaeological values of these features, water sources on the ancient landscape may have been focuses for human occupation and thus be more prospective for human occupation (Veth 2019).

Further context: Intangible cultural heritage

Intangible cultural heritage has been identified through literature review as culturally important to First Nations people (Section 4.9.1.6). Cultural knowledge, as expressed through songlines, dreaming, dance and other cultural practices, can be associated with tangible objects and physical sites that are culturally important to First Nations people (Ardler 2021; Bursill et al. 2007). Intangible cultural heritage can also be embodied in the practices, representations, expressions, knowledge, uses and skills associated with physical sites (UNESCO 2003). As a result, physical features may have intangible dimensions (ICOMOS 2013).

In terms of identified cultural features and heritage values related to intangible values summarised in Table 4 21, see below some additional context:

- **Songlines:** Oral Songlines are often described by First Nations people as the law of the land and make up part of the Dreaming (Neale and Kelly 2020:30). Songlines are viewed in Western academia as a framework for relating people to land and consist of a series of invisible, interconnected routes across the landscape that mark significant sites for First Nations people (Higgins 2021:723). Songlines demonstrate First Nations peoples' strong connections to land by revealing sacred knowledge that is place-specific (Roberts 2023:5). The land's physical features are instrumental in maintaining songlines because this is how ancestral spirits journeyed through, and interacted with, the physical landscape leaving sacred knowledge behind. The interconnection between the physical and spiritual is where songlines become intrinsically tied to significant places across Country. As a result, geographical landforms are recorded within songlines and become sacred places. Such landforms can include inter alia: rocks, mountains, rivers, caves and hills (Higgins 2021:724). Songlines can become lost, fragmented or broken when there is a loss of Country or forced removal from Country (Neale and Kelly 2020:30). Physical sites that have been identified as comprising a component of a songline are important to protect to prevent the fragmenting or breaking apart of songlines and loss of sacred cultural knowledge.

In Australia, songlines can stretch thousands of kilometres, making up a complex and organic network of stories containing cultural knowledge of First Nations communities across the land (Neale and Kelly 2020:35). Songlines can also extend out to Sea Country and contain cultural knowledge that is tied to geographic features, atmospheric phenomena and marine plants and animals. Often songlines containing references to a seascape or Sea Country make mention of mythical events occurring around marine life, fishing areas, submerged rocks or coral. Songlines that embody seascapes can reflect how a group may relate to, or value, Sea Country—for example connections to nearby islands that they once inhabited in their songlines (Smyth and Isherwood 2016:307). Songlines can also be used as proof of long-standing connection to land and support a legal entitlement to land rights (Higgins 2021:74). Examples where songlines contain strong references to Sea Country are more common in Pacific Islander and Torres Strait Islander communities, who often refer to seascapes and skylines in their songlines in order to communicate sacred knowledge that assists in safe navigation of the ocean (Neale and Kelly 2020:83-84). The routes of any songlines in the EMBA have not been provided by Traditional Custodians through consultation.

- Creation/dreaming sites, sacred sites and ancestral beings: The only sources located by Woodside with detailed descriptions of the location ancestral beings or creation/ dreaming/ sacred sites placed these on land or within inland water sources such as rivers or pools. However, some ancestral beings are noted to live within or originate from the sea generally, and some creation stories talk to the creation of features from or in the sea. Additionally, every place on shore or at sea must be assumed to have been created on some level in First Nations cosmology.
- Cultural obligations to care for Country: Caring for Country collectively refers to the cultural obligations of individuals and groups, as well as rituals and ceremonies required for the physical and spiritual health of the environment. In the literature reviewed by Woodside, caring for Country was noted to include, but is not limited to, maintenance of the physical environment and ecosystem. It may also have cultural, spiritual and ritual dimensions such as caring for ancestral beings or ensuring cultural safety. Thalu are places where increase ceremonies are performed to enhance or maintain populations of plants, animals or phenomena. All mentions of active ceremonial sites were confined to onshore locations, though the values may extend offshore where e.g., a thalu relates to marine species populations.
- Knowledge of Country/customary law and transfer of knowledge: Knowledge of and familiarity with the features of Sea Country is itself a value. The inherent potential for restricted or secret knowledge makes this difficult to assess even through consultation with Traditional Custodians. However, aspects such as limitations on access to sites or disruption/relocation of First Nations communities may have implications for the preservation of First Nations knowledge. Further, connection to Country may be damaged where people are displaced or disrupted (e.g., during colonisation) or where there is a loss of technical skills or environmental knowledge (McDonald and Phillips, 2021). Transfer of knowledge includes continuing traditional practices to pass on practical skills. This transfer of knowledge may be integral to managing a group's intangible cultural heritage (UNESCO 2003).
- Connection to Country: Describes the multi-faceted relationship between First nations people and the landscape, which is envisioned as having personhood and spirit. It is also an aspect of personal identity for many First nations people. In the case of Sea Country this can mean identifying as a Saltwater person, where “essence of being a 'Saltwater' person is ontological... it is about how people relate spiritually to the sea and engage with spiritual forces that created it, the marine flora and fauna and people” (McDonald and Phillips, 2021).

- Access to Country, including Sea Country: Is necessary for the continuation of other values including caring for Country and the transfer of traditional knowledge. Being on Country can be an important way of expressing or maintaining connection to Country (Australian Indigenous HealthInfoNet n.d.). Access is also a value in its own right, as a continuation of traditional Sea Country access and use.
- Kinship systems and totemic species: Individuals may have kinship to specific species (Smyth 2008, Juluwarlu 2004) and/or a responsibility to care for species (Muller 2008). Kinship arises from totemic associations within First Nations “skin group” systems. It is forbidden for an individual to kill or eat a species who is from the same “skin group” (Juluwarlu 2004). They may also have certain obligations linked to the discussion of caring for Country below. It is assumed that marine species may have kinship/totemic relationships to Traditional Custodians, but it is understood that these relationships do not prohibit people outside of that “skin group” from hunting or eating that same species (Juluwarlu 2004).
- Resource collection: A number of marine species are identified through consultation and literature as important resources, particularly as food sources. In addition to their immediate value as sustenance, the gathering and preparation of these resources is informed by cultural knowledge, and an inability to use these resources may result in a loss of ability to transfer that knowledge to future generations.

Further context: Marine ecosystems and species

First Nations people have raised through consultation that they have a general interest in environmental management and ecosystem health (i.e., natural environment interest), where a group/individual was seeking further information about potential impacts and risks from the Petroleum Activities Program on marine species and benthic communities in the PAA and EMBA. This includes marine mammals, marine reptiles, fish, seabirds, plankton, benthic habitats and marine parks, which are described in context of their distribution and populations in Section 4.6, with further details in Master Existing Environment.

In terms of identified cultural features and heritage values related to marine ecosystems and species, see below some additional context:

- Marine mammals: Whales and dugongs have been identified through consultation with First Nations people as culturally important species. Details pertaining to whales, dugongs and dolphins, their distribution, migration patterns and populations are described in Section 4.6, with further details in Master Existing Environment.
- Marine reptiles: Turtles and sea snakes have been identified through consultation with First Nations people as culturally important species, with turtles identified as a resource. First Nations people that identify marine reptiles as species of totemic importance or integral to songlines may place high cultural value on their protection. No marine reptile related songlines have been identified that have the potential to interact with the PAA or EMBA. Cultural knowledge of turtles at a population level (turtle migration, behaviour and the related marine environment) may all be important in ensuring the continuation of cultural functions and activities that remain valuable to First Nations people (Fijn 2021:47; Delisle et al.2018). Details pertaining to marine reptiles, their distribution, and populations are described in Section 4.6, with further details in Master Existing Environment.
- Fish: Fish have been identified through consultation with First Nations people as a culturally important species, with fish generally being identified as a resource. First Nations may identify cultural values associated with fish species as important to maintaining both tangible (physical cultural sites) and intangible (cultural knowledge) cultural heritage. Tangible cultural heritage associated with fish can include important cultural sites such as midden sites, fish traps and thalu sites. Thalu are places where these increase ceremonies

are performed. Details pertaining to fish are described in Section 4.6, with further details in the Master Existing Environment.

- Seabirds: Seabirds, and in particular shags, have been identified through literature as a resource (seabird eggs; Smyth 2007). Details pertaining to seabirds and migratory shorebirds are described in Section 4.6, with further details in the Master Existing Environment.

4.9.1.9 Historic Sites of Significance

There are no known sites of historic heritage significance within the Operational Area. The Master Existing Environment describes cultural heritage sites within the EMBA.

4.9.1.10 Historic Underwater Heritage

A search of the Australasian Underwater Cultural Heritage Database which records all known Maritime Cultural Heritage (shipwrecks, aircraft, relics and other underwater cultural heritage) in Australian waters indicated that there are no sites within the Operational Area, however, numerous shipwrecks exist within the EMBA. **Table 4-20** lists shipwrecks within 50 km of the Operational Area. As noted in **Section 6.6.2**, prior to any planned seabed disturbance taking place, a desktop assessment of the potential for First Nations and non-First Nations Underwater Cultural Heritage will be completed, as per C4.1.

Table 4-20: Recorded shipwrecks within the EMBA

Vessel name (ID number)	Year wrecked	Latitude	Longitude
Airlie (3629)	1876	-21.666667	114.866667
Cossack (3906)	1889	-21.666667	114.866667
Rose (4732)	1890	-21.583333	114.833333
Veronica (5061)	1928	-21.683333	114.383333
Fairy Queen (4088)	1875	-21.817150	114.189117
Nellie (4567)	1893	-21.750000	114.083333
Kapala (4318)	1964	-21.750000	114.083333
Ellen (4021)	1893	-21.750000	114.083333
Wild Wave (5112)	1875	-21.750000	114.083333
Sea Queen (4788)	1893	-21.750000	114.083333
Ruby (4749)	1893	-21.750000	114.083333
Lily of the Lake (4403)	1875	-21.750000	114.083333
Unidentified Lugger (5001)	1893	-21.750000	114.083333
Elizabeth (4013)	1893	-21.750000	114.083333
Bell (3736)	1893	-21.750000	114.083333
Agnes (3623)	1893	-21.750000	114.083333
Leave (4385)	1893	-21.750000	114.083333
Lamareaux (4369)	1893	-21.750000	114.083333
Mabel (4427)	1893	-21.750000	114.083333

Vessel name (ID number)	Year wrecked	Latitude	Longitude
Smuggler (4824)	1893	-21.750000	114.083333
Pearl (4628)	1896	-21.750000	114.083333
Olive (4598)	1893	-21.750000	114.083333
Florence (4111)	1893	-21.750000	114.083333

4.9.1.11 World, National and Commonwealth Heritage Listed Places

No listed heritage places overlap the Operational Area. World, National and Commonwealth heritage places within the EMBA are identified in **Table 4-21**. The Master Existing Environment, **Section 10.2 and 10.3** outlines the values and sensitivities of these places.

Table 4-21: World Heritage Properties and National / Commonwealth Heritage Listed Places within the EMBA

Listed Place	Distance and direction from Operational Area to Listed Place (km)
World Heritage Properties	
Ningaloo Coast	3 km south
National Heritage Places	
Ningaloo Coast	3 km south
Commonwealth Heritage Places	
Ningaloo Marine Area – Commonwealth waters	9 km south-southwest

4.9.2 Commercial Fisheries

A number of Commonwealth and State fishery management areas are located within the Operational Area and EMBA. 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 within the Operational Area and EMBA in the last five years. FishCube data were 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 five years as a subset of past fishing effort. This was deemed an appropriate period to represent potential future fishing effort during this EP.

Table 4-22 provides an assessment of the potential interaction and the Master Existing Environment provides further detail on the fisheries that have been identified through desk-based assessment and consultation (**Appendix F**).

Figure 4-15, Figure 4-16 and Figure 4-17 shows fisheries identified as having a potential interaction with the Petroleum Activities Program.

Table 4-22: Commonwealth and State managed commercial Fisheries overlapping the Operational Area and/or EMBA

Fishery	Potential for interaction		
	Operational Area	EMBA	Description
Commonwealth Managed Fisheries			
✓ = potential for interaction, blue shading = overlap with Operational Area			
North West Slope Trawl Fishery	x	✓	The North West Slope Trawl Fishery management area overlaps the EMBA. Between one to six vessels have been active in the fishery since 2005. Fishery Status Reports indicate the maximum area fished between 2020-2021 occurred outside of the EMBA (ABARES, 2021). However, Woodside considers it a possibility that interactions with the fishery may occur in the combined EMBA.
Western Deepwater Trawl Fishery	x	✓	The Western Deepwater Trawl Fishery overlaps the Operational Area and EMBA. Fishery Status Reports indicate most recent activity overlapping the EMBA occurred in the 2020-2021 season (ABARES, 2021). Accordingly, Woodside considers it a possibility that interactions with the fishery may occur in the combined EMBA.
Western Tuna and Billfish Fishery	x	x	The Western Tuna and Billfish Fishery spans the Australian Fishing Zone west of Victoria and the Torres Strait. However, in the last five years (2016 – 2021), fishing effort has concentrated south of Carnarvon (ABARE., 2021). Accordingly, Woodside considers there to be no potential for interaction with this fishery and the Petroleum Activities Program.
Southern Bluefin Tuna Fishery	x	x	The Southern Bluefin Tuna Fishery spans the Australian Fishing Zone, however since 1992, the majority of Australian catch has concentrated in south-eastern Australia. (ABARES, 2021). Accordingly, Woodside considers there to be no potential for interaction with this fishery and the Petroleum Activities Program.
Western Skipjack Tuna Fishery	x	x	The Western Skipjack Tuna Fishery spans the Australian Fishing Zone west of Victoria and the Torres Strait. The Fishery is not currently active, and no fishing has occurred since 2009 (ABARES, 2021). Accordingly, Woodside considers there to be no potential for interaction with this fishery and the Petroleum Activities Program.

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Fishery	Potential for interaction		
	Operational Area	EMBA	Description
State Managed Fisheries			
✓ = potential for interaction, blue shading = spatial overlap for EMBA			
Pilbara Line Fishery	✓	✓	The Pilbara Line Fishery licensees are permitted to operate anywhere within Pilbara waters (Newman et al., 2021), overlapping the Operational Area and EMBA. FishCube data for the Pilbara Line Fishery is not provided at the 10 NM scale, however catch effort reported over the last five years in the 60 NM CAES block 29114 which overlaps the Operational Area demonstrates it is active. 60 NM CAES blocks 29085, 29102, 29114 and 29125 overlapping the EMBA also demonstrate this fishery active status.
Pilbara Trap Fishery	✓	✓	The Pilbara Trap Fishery management area overlaps the Operational Area and the EMBA. The fishery is active in the EMBA, with 4 60 NM Catch and Effort System (CAES) block reporting up to 6 licences across the 2018 – 2022 seasons (DPIRD, 2022). FishCube data for the Pilbara Trap Fishery is not provided at the 10 NM scale, however effort reported in the 60 NM CAES block 21140 overlaps with the Operational Area. Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Marine Aquarium Fish Managed Fishery	✓	✓	The Marine Aquarium Fish Managed Fishery management area overlaps the Operational Area and the EMBA, however generally collects fish for display in water depths of less than 30 m. The fishery is active in the EMBA, with 11 10 NM CAES block reporting active across the 2018 - 2022 seasons (DPIRD, 2022). FishCube data reported one active fisheries at 10 NM CAES block overlapping the Operational Area (DPIRD, 2022). Therefore, Woodside considers it a possibility that interactions with the fishery may occur in the EMBA.
West Coast Deep Sea Crustacean Managed Fishery	x	✓	The West Coast Deep Sea Crustacean Managed Fishery is permitted to fish in waters deeper than the 150 m isobath. The FishCube data reported no active fisheries at 10 NM overlapping the Operational Area (DPIRD, 2022) Woodside considers there to be potential for interaction with this fishery and the Petroleum Activities Program within the EMBA.
Mackerel Managed Fishery (Areas 2 and 3).	Area 2: ✓	✓	Area 2 of the Mackerel Managed Fishery overlaps the Operational Area and EMBA, while Area 3 only overlaps the EMBA. FishCube data reported active fishing in ten 10NM CAES blocks between the 2018 – 2022 seasons (DPIRD, 2022). FishCube data reported two fishing effort at 10 NM CAES blocks in 2021

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Fishery	Potential for interaction		
	Operational Area	EMBA	Description
	Area 3: x	✓	overlapping the Operational Area (DPIRD, 2022). Woodside considers there to be potential for interaction with the fishery in the EMBA.
Gascoyne Demersal Scalefish Fishery	x	✓	The Gascoyne Demersal Scalefish Fishery management area overlaps the EMBA. FishCube data reported fishing effort at five 10 NM CAES blocks overlapping the EMBA (DPIRD, 2022). Woodside considers there to be potential for interaction with the fishery in the EMBA.
West Australian Sea Cucumber Fishery	x	✓	The West Australian Sea Cucumber Fishery management area overlaps the EMBA. The fishery is active in the EMBA with one 10NM CAES blocks overlapping the EMBA reported fishing activity in the 2018 and 2019 seasons (DPIRD, 2022). FishCube data reported no fishing effort at 10 NM CAES blocks overlapping the Operational Area (DPIRD, 2022). Woodside considers there to be potential for interaction with the fishery in the EMBA.
Pilbara Crab Managed Fishery	x	x	The Pilbara Crab Managed Fishery management area overlaps the Operational Area and the EMBA. However, FishCube data reported no fishing effort within the Operational Area or EMBA in the last five years (2017 – 2022) (DPIRD, 2022). Accordingly, Woodside considers there to be no potential for interaction with this fishery and the Petroleum Activities Program.
West Coast Rock Lobster Fishery	x	x	The Western Rock Lobster Fishery management area overlaps the EMBA (DPIRD 2022). However, FishCube data reported no fishing effort within the Operational Area or EMBA in the last five years (2017 – 2022) (DPIRD, 2022). Accordingly, Woodside considers there to be no potential for interaction with this fishery and the Petroleum Activities Program.
South West Coast Salmon Managed Fishery	x	x	The South West Coast Salmon Fishery management area overlaps the EMBA. However, FishCube data reported no fishing effort within the Operational Area or EMBA in the last five years (2017 – 2022) (DPIRD, 2022). Accordingly, Woodside considers there to be no potential for interaction with this fishery and the Petroleum Activities Program.
Pearl Oyster Managed Fishery	x	x	The Pearl Oyster Managed Fishery management area overlaps the EMBA. However, FishCube data reported no fishing effort within the Operational Area or EMBA in the last five years (2017 – 2022) (DPIRD, 2022). Accordingly, Woodside considers there to be no potential for interaction with this fishery and the Petroleum Activities Program.

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Fishery	Potential for interaction		
	Operational Area	EMBA	Description
Exmouth Gulf Prawn Managed Fishery	x	✓	The Exmouth Gulf Prawn Fishery management area overlaps the EMBA. The fishery is active in the EMBA with five 10NM CAES blocks overlapping the EMBA reported active fishing during 2018 - 2021 seasons (DPIRD, 2022). Woodside considers there to be potential for interaction with the fishery in the EMBA.
Onslow Prawn Managed Fishery	x	✓	The Onslow Prawn Fishery management area overlaps the EMBA. FishCube data reported fishing effort at two 10 NM CAES blocks overlapping the EMBA (DPIRD, 2022). Block 204125 was active in 2022 and Block 212145 active in 2020. Woodside considers there to be potential for interaction with the fishery in the EMBA.
Specimen Shell Managed Fishery	✓	✓	The Specimen Shell Fishery management area overlaps the Operational Area and the EMBA. The fishery is active in the EMBA with six 10NM CAES blocks overlapping the EMBA. FishCube data reported fishing effort at 10 NM CAES blocks 213142 and 213143 during 2019 and 2021 fishing seasons the Operational Area (DPIRD, 2022). Woodside considers there to be potential for interaction with the fishery in the EMBA.
Charter based commercial operators			
✓ = potential for interaction, blue shading = spatial overlap for EMBA			
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 reported four active tour operators at 10 NM CAES blocks overlapping the Operational Area (DPIRD, 2022). FishCube data indicate tour operator fishing effort highest around Ningaloo and Muiron Islands and at Barrow Island and the Montebello Islands, within the EMBA. Accordingly, Woodside considers it a possibility that interactions with tour operators will occur within the EMBA.

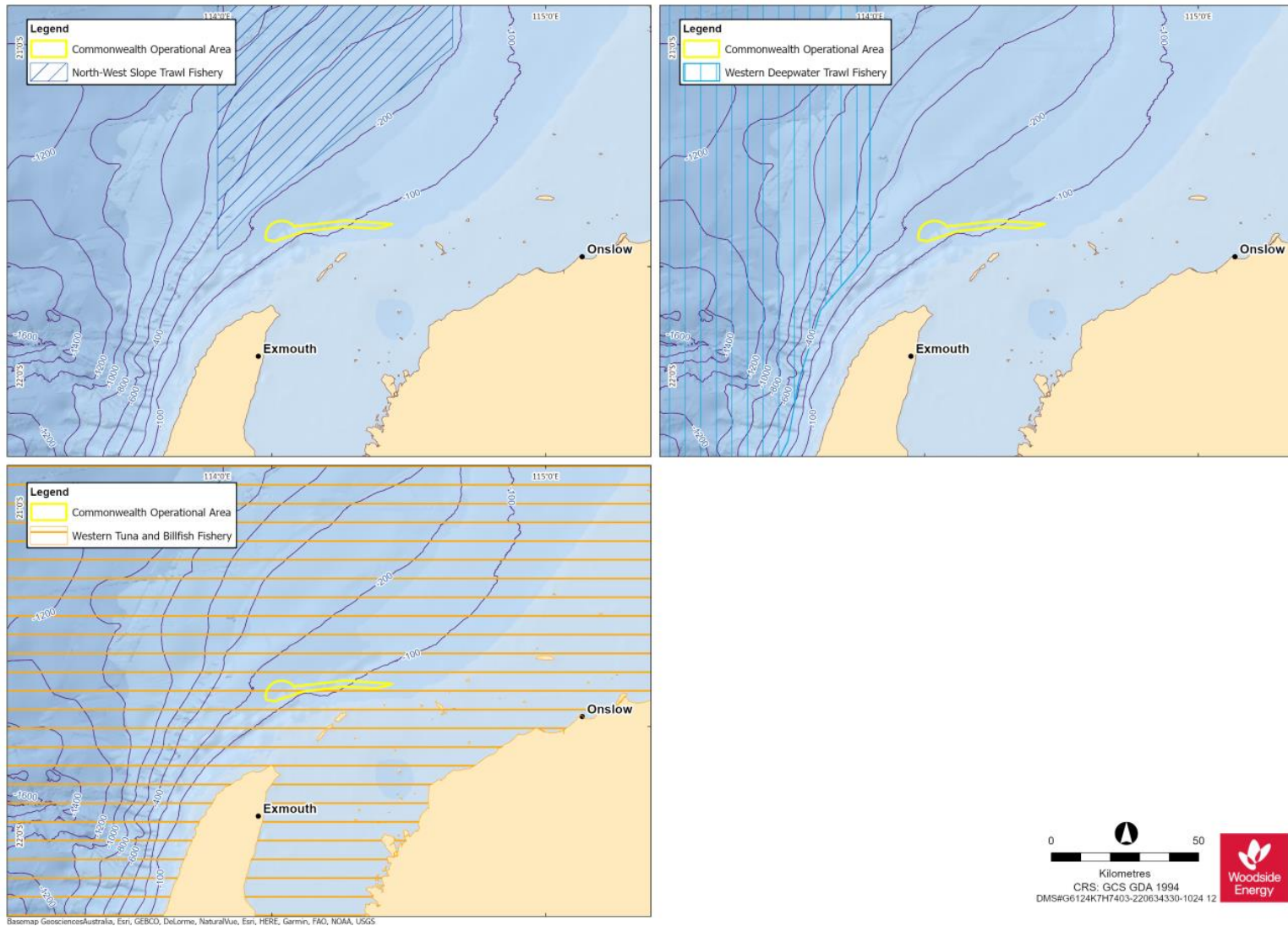


Figure 4-15: Commonwealth Managed commercial fisheries overlapping the Operational Area with a potential for interaction with Petroleum Activities Program

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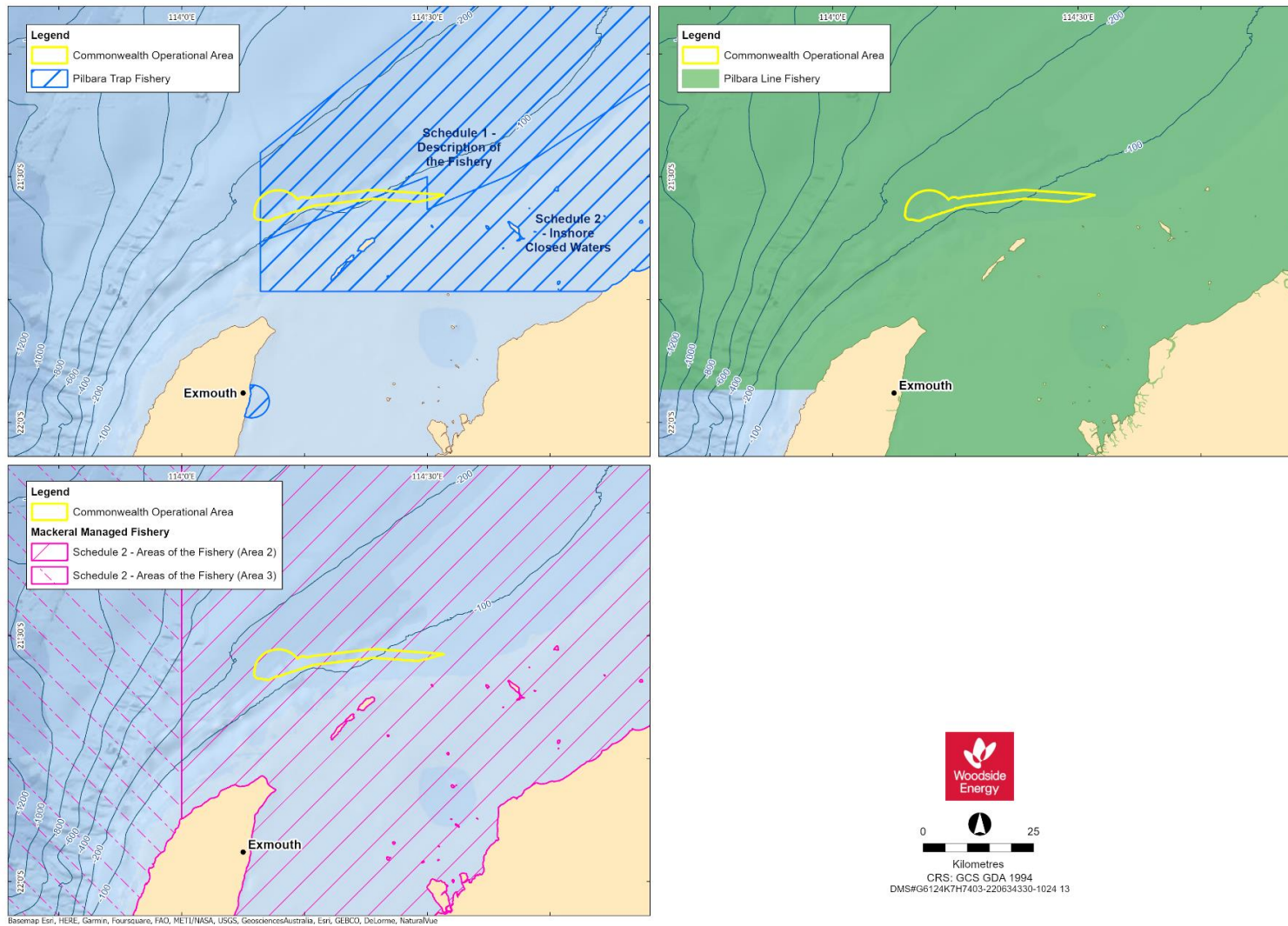


Figure 4-16: State Managed commercial fisheries overlapping the Operational Area with a potential for interaction with Petroleum Activities Program (1 of 2 figures)

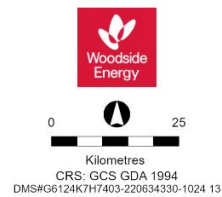
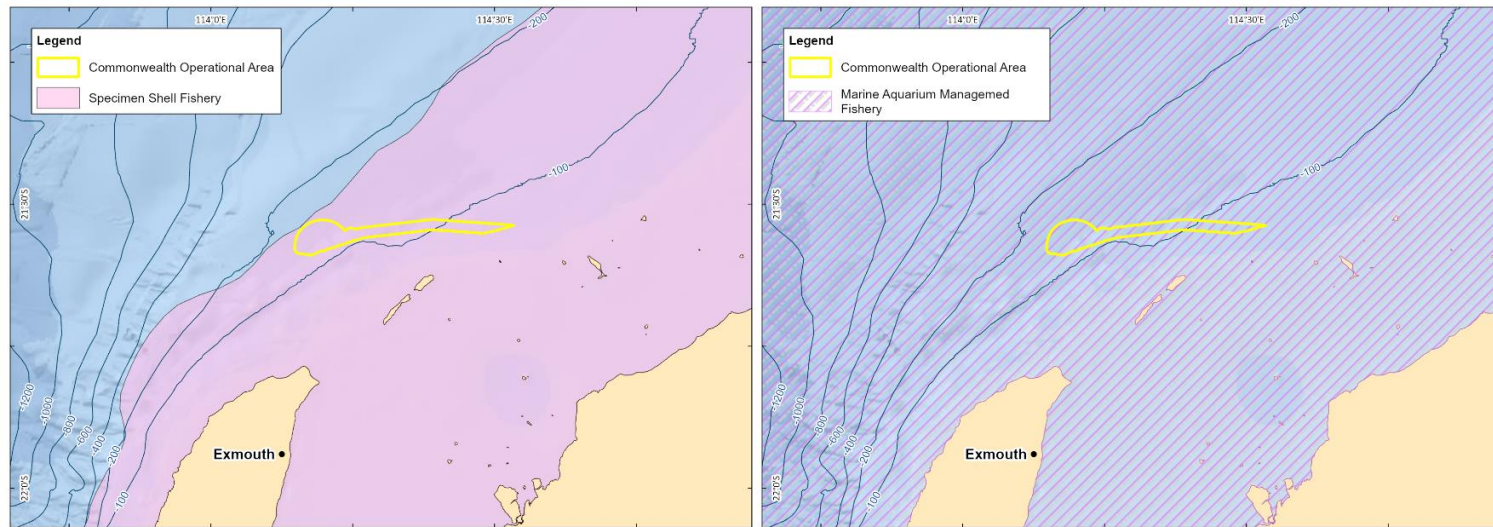
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Basemap Esri, HERE, Garmin, Foursquare, FAO, METI/NASA, USGS, GeosciencesAustralia, Esri, GEBCO, DeLorme, NaturaVie

Figure 4-17: State Managed commercial fisheries overlapping the Operational Area with a potential for interaction with Petroleum Activities Program (2 of 2 figures)

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4.9.3 Traditional Fisheries

Traditional or customary fisheries are typically restricted to shallow coastal waters and/or areas with structures such as reefs so are not likely to be in the Operational Area. However, it is recognised that Ningaloo Reef is within the wider EMBA and Barrow Island which lies less than 1 km outside of the wider EMBA, have a known history of fishing when areas were occupied (as from historical records) (CALM 2005).

4.9.4 Tourism and Recreation

The nearest population centres to the Operational Area are the towns of Onslow (~100 km) and Exmouth (~40 km). Onslow is a coastal town offering easy access to tourists, vacationers and recreational fishers to the Mackerel Islands, a group of ten islands 22 km offshore. Exmouth has become a significant tourist centre with Cape Range National Park, Ningaloo Marine Park and adjacent inshore waters.

Peak tourism occurs from April to October with marine-based activities concentrated around infrastructure such as boat ramps and camping areas (Smallwood, 2009). Marine facilities, including boat launching ramps, jetties, marinas, etc., within the area are limited, with most located along the Exmouth Gulf side of the peninsula including:

- Port of Onslow, Beadon Creek;
- Point Murat naval supply jetty (restricted access);
- Bundegi-- facilities include a concrete launching ramp, car park and public toilets; and
- Exmouth Marina-- provides launching, mooring, fuelling and supply facilities for commercial fishing, charter fishing, tourist and commercial/private vessels.

Boat ramps on the Ningaloo side of the peninsula are located at:

- Tantabiddi Creek-- facilities include a concrete launching ramp, car park and public toilets.

Recreational fisheries and charter boat operators are managed by the Western Australian Department of Primary Industries and Regional Development. With an estimated 740,000 people fishing recreationally in WA, it makes a significant contribution to the economy and attracts vast numbers of visitors to the region each year (Department of Fisheries, 2014). The Ningaloo Marine Park (~8 km from the Operational Area) also provides high-quality fishing for species such as spangled emperor, Spanish mackerel and coral trout. The Muiron Islands are 8.7 km from the Operational Area and are used recreationally for swimming, snorkelling and scuba diving.

Growth and the potential for further expansion in tourism and recreational activities is recognised for the Pilbara and Gascoyne regions, with the development of regional centres and a workforce associated with the resources sector (SGS Economics and Planning 2012).

4.9.5 Commercial Shipping

The Australian Maritime Safety Authority (AMSA) has introduced a network of marine fairways across the NWMR off WA to reduce the risk of vessel collisions with offshore infrastructure. The Operational Area is located outside of these declared and charted shipping fairways. However, there is known shipping activity occurring within the region as the Onslow and Ashburton Port Areas are located within the EMBA.

Refer to the Master Existing Environment for shipping information in the EMBA. Refer to refer to **Figure 4-18** for vessel density and indicative shipping fairways within the Operational Area and EMBA.

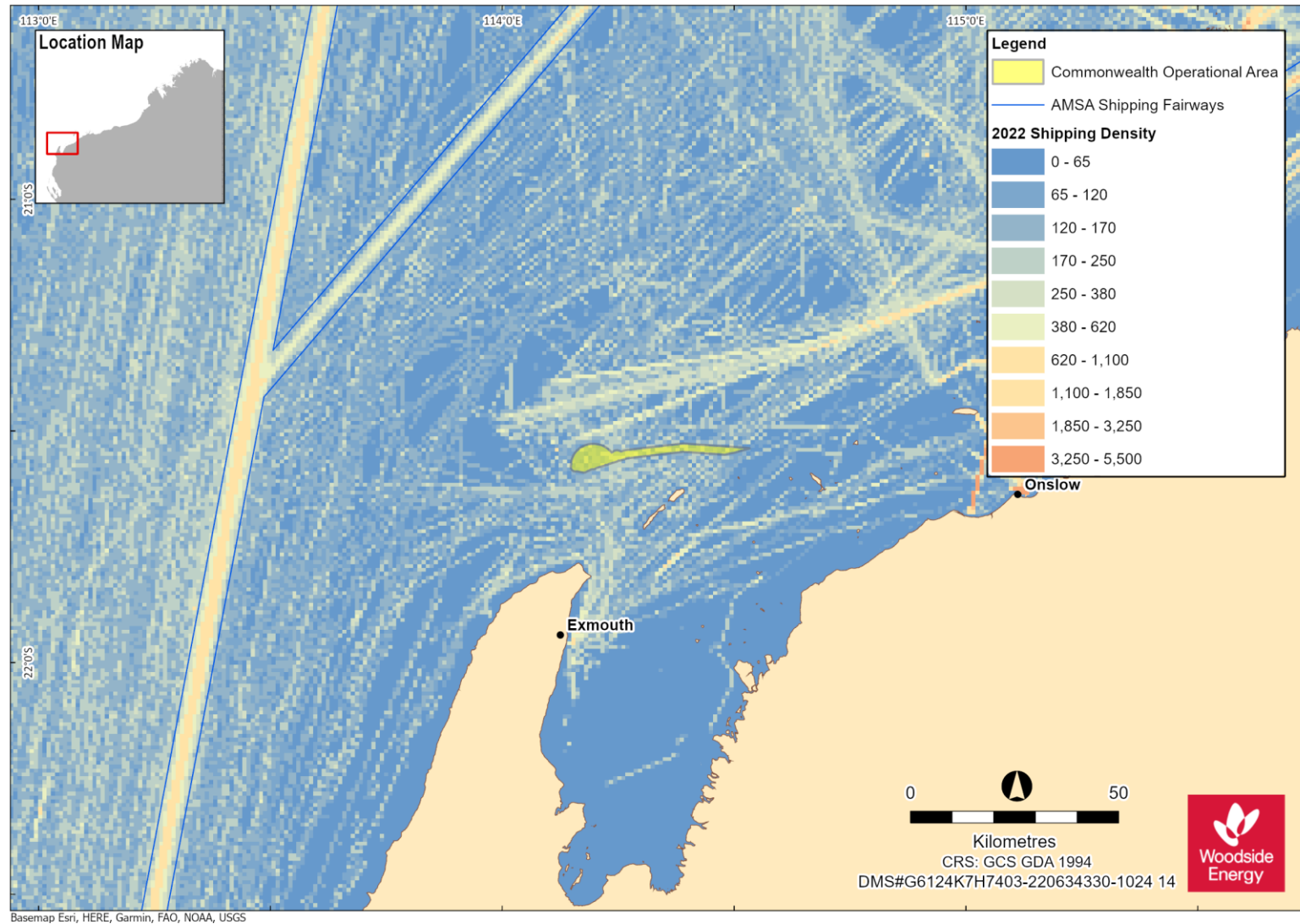


Figure 4-18: Vessel density map for the Operational Area and EMBA, derived from AMSA satellite tracking system data (vessels include cargo, LNG tanker, passenger vessels, support vessels, and others/unnamed vessels)

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4.9.6 Oil and Gas

Table 4-23 details other oil and gas facilities located or proposed within 50 km of the Operational Area, as shown in **Figure 4-19. Section 11.9** of the Master Existing Environment describes current oil and gas development within the NWMR.

Table 4-23: Other Oil and Gas Facilities located within 50 km of the Operational Area

Facility Name and Operator	Approximate Distance and Direction from Operational Area to the facility (km)
Woodside Pyrenees Facility (Pyrenees FPSO)	6 km north-west of Operational Area
Woodside Vincent Development (Ngujima-Yin FPSO)	6 km north-west of Operational Area
Santos Van Gogh/ Coniston/ Novara Development (Ningaloo Vision FPSO)	7 km north-west of Operational Area
Woodside Nganhurra RTM	16.8 km north-west of Operational Area

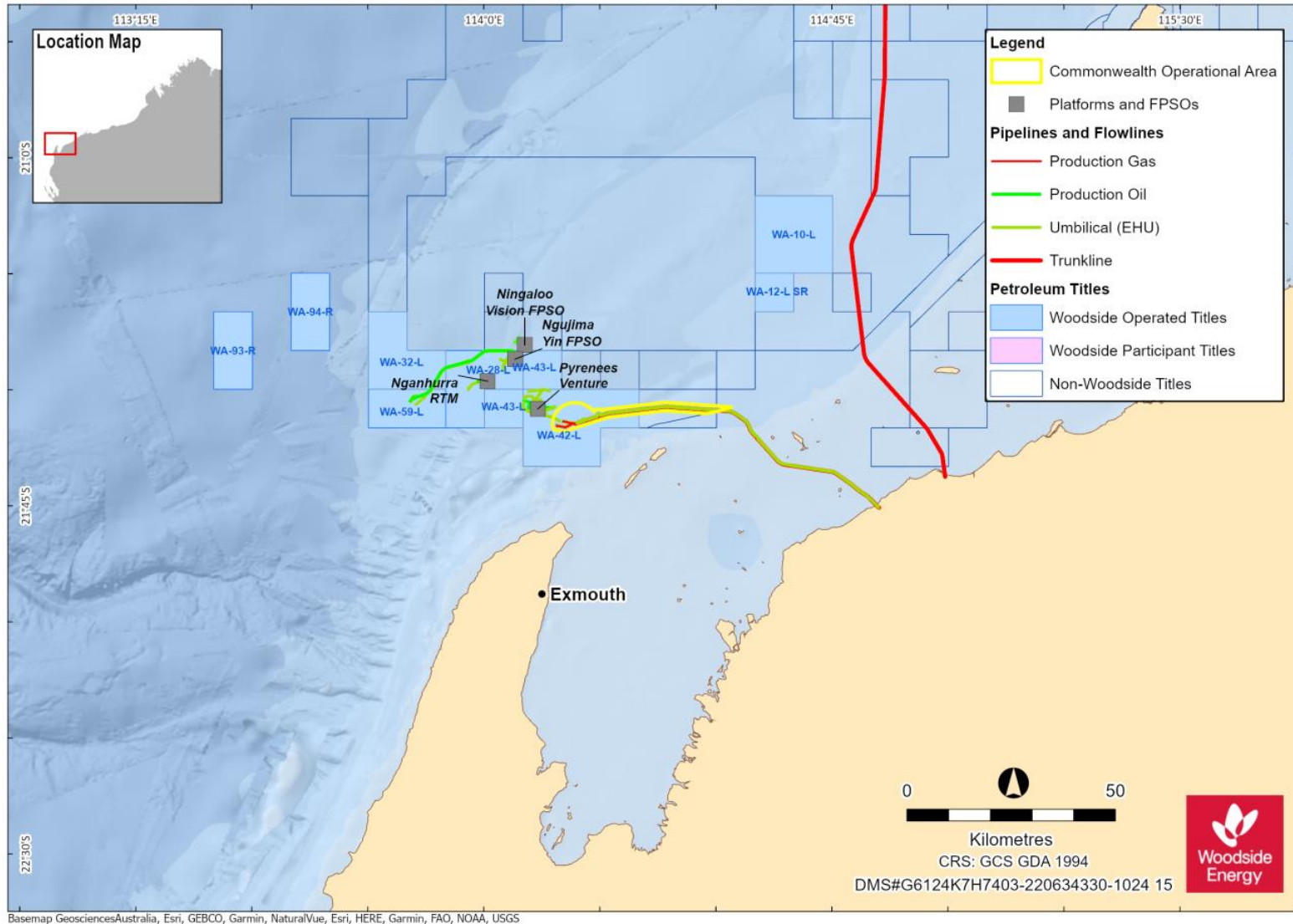


Figure 4-19: Oil and gas Infrastructure within the Operational Area and EMBA

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4.9.7 Defence

Department of Defence (DoD) areas, facilities and areas with unexploded ordnances (UXOs) potential overlapping the Operational Area and EMBA are outlined in **Table 4-24** and presented in **Figure 4-20**. The Master Existing Environment describes key DoD areas and facilities.

Table 4-24: Defence areas, facilities and UXO potential overlapping the Operational Area and EMBA

Defence area/ facility	Presence	
	Operational Area	EMBA
Learmonth air training area (associated with the Learmonth Air Weapons Range Facility)	✓	✓
UXO SDG096 Sea Dumping: Anchor Island. This site is an area used for the dumping at sea of ordnance and other items.	✗	✓
Potential Depth Charge UXO DEP022: Northwest of Bessieres Island. This site was an area where Depth Charges were used in WWII and where some depth charges failed to function.	✗	✓
UXO 793 and 794: Exmouth Gulf: Prior to WWII, RAN bombarded both land and sea targets on and near the peninsula	✗	✓
UXO SDG082: Sea Dumping – Ningaloo. This site is an area used for the dumping at sea of ordnance and other items.	✗	✓

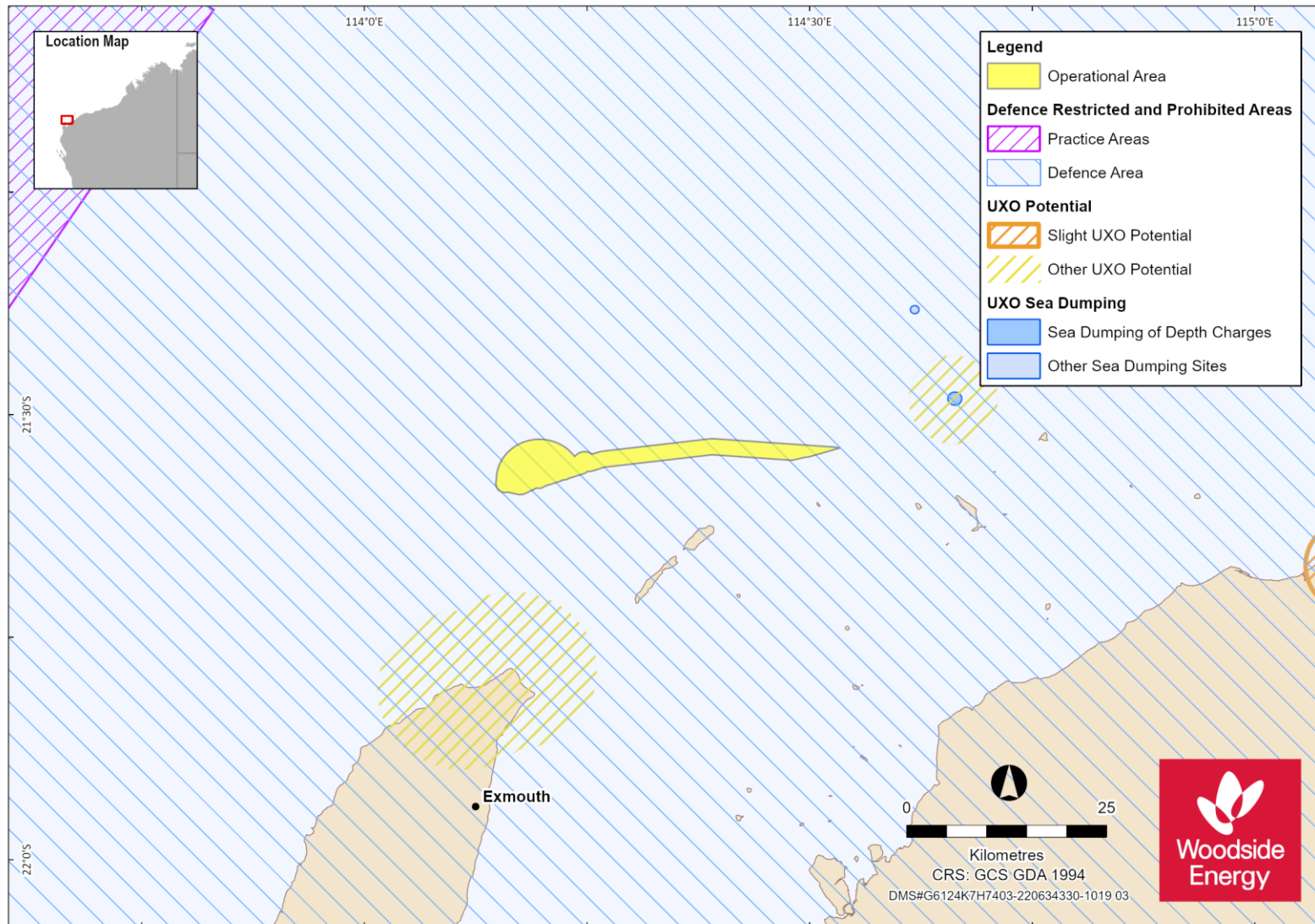


Figure 4-20: Defence areas within the Operational Area and EMBA

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5. CONSULTATION

5.1 Summary

Woodside consults relevant persons in the course of preparing an EP in accordance with regulation 25 of the Environment Regulations. Consultation is designed to identify relevant persons and provide them with sufficient information and a reasonable period to allow them to make an informed assessment of the possible consequences of the proposed activity on their functions, interests or activities to enable titleholders to consider and adopt appropriate measures in response to objections or claims received from relevant persons. Consistent with regulation 4 of the Environment Regulations, consultation also supports the objective to ensure that the activity is carried out in a manner by which the environmental impacts and risks of the activity will be reduced to ALARP and will be of an acceptable level.

Woodside acknowledges that a titleholder's approach to consultation is to be informed by both the Environment Regulations and the findings of relevant Courts, including the Full Federal Court in the *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Tipakalippa Appeal) (see **Section 5.2** and Appendix F) delivered on 2 December 2022.

For this PAP, Woodside has considered both the Operational Area and the broader EMBA in undertaking consultation (see further discussion in **Section 5.2**). The broadest extent of the EMBA has been determined by reference to the highly unlikely event of a hydrocarbon release resulting from the PAP (see **Section 4**).

Woodside's consultation methodology is divided into two parts:

- The first section (**Section 5.2 to 5.5**) provides an overview of Woodside's consultation methodology for its EPs, including how we apply regulation 25(1) of the Environment Regulations to identify relevant persons.
- The second section (**Section 5.6 to Section 5.7**) details Woodside's approach to accepting feedback and assessment of the merit of each objection or claim, and engaging in ongoing consultation for this EP.

Woodside's consultation record is at **Appendix F** and includes:

- Assessment and identification of relevant persons.
- Consultation information provided to relevant persons, feedback received and Woodside's assessment of the merits of objections or claims.
- Engagement with persons or organisations that Woodside chose to contact who are not relevant persons for the purposes of regulation 25 of the Environment Regulations (see **Section 5.3.4**).
- Opportunities provided to persons or organisations to be aware of Woodside's proposed EP and participate in consultation, including individual Traditional Custodians.

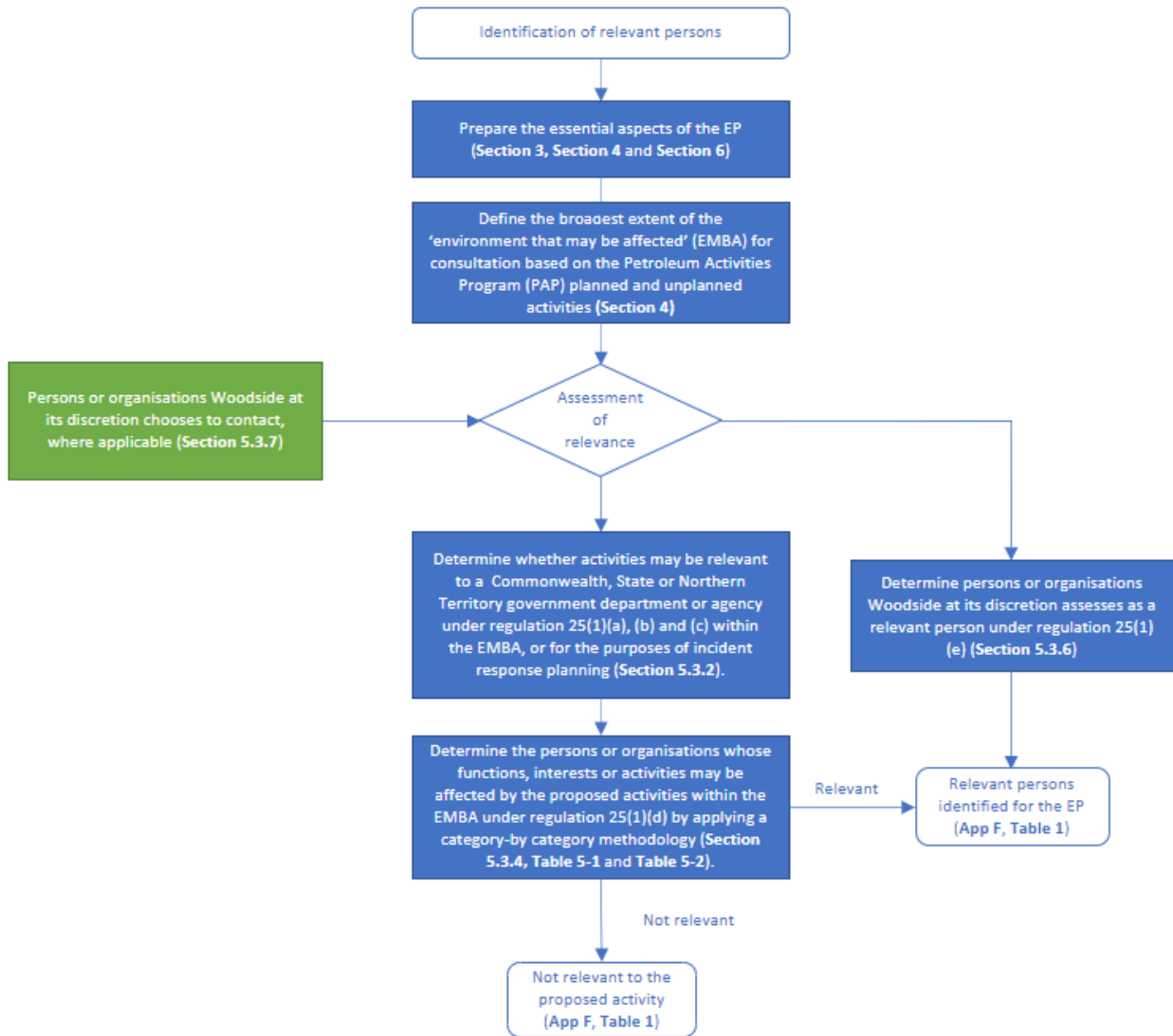


Figure 5-1: Overview of Woodside’s methodology to identify relevant persons

5.2 Consultation – General Context

Woodside has a portfolio of quality oil and gas assets and more than 30 years of operating experience. We have a strong history of working with local communities, the relevant regulators and a broad range of persons and organisations to understand the potential risks and impacts from our proposed activities and to develop appropriate measures to manage them.

The length of time that we have operated in Commonwealth and State waters, and the history of continued engagement with a wide range of persons and organisations enables Woodside to develop an extensive consultation list to inform its consultation process. This consultation list is not used as a definitive list of persons to consult, but rather, assists Woodside as an input to its understanding of relevant persons with whom to consult on a proposed petroleum activity. The information in the consultation list has been captured from years of experience, it contains insights

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relating to the type of information particular persons or organisations want to receive during consultation, the appropriate method of consultation for relevant persons and includes appropriate contact details, which are reviewed and updated periodically.

Woodside acknowledges NOPSEMA's Guideline on *Consultation in the course of preparing an environment plan* (12 May 2023) as well as judicial guidance in the Tipakalippa Appeal on the intent of consultation as follows:

- At paragraph 54 of the appeal decision: ... *provide a basis for NOPSEMA's considerations of the measures, if any, that a titleholder proposes to take or has taken to lessen or avoid the deleterious effect of its proposed activity on the environment, as expansively defined.*
- At paragraph 89 of the appeal decision: ... *its purpose is to ensure that the titleholder has ascertained, understood and addressed all the environmental impacts and risks that might arise from its proposed activity. Consultation facilitates this outcome because it gives the titleholder an opportunity to receive information that it might not otherwise have received from others affected by its proposed activity. Consultation enables the titleholder to better understand how others with an objective stake in the environment in which it proposes to pursue the activity perceive those environmental impacts and risks. As the Regulations expressly contemplate, it enables the titleholder to refine or change the measures it proposes to address those impacts and risks by taking into account the information acquired through the consultations. Objectively, the scheme intends that this is likely to improve the minimisation of environmental impacts and risks from the activity.*

The Tipakalippa Appeal has also been further considered in the context of specific methods for consultation with First Nations relevant persons (**Section 5.5.1**).

In order to undertake consultation, Woodside has developed a methodology for identifying relevant persons, in accordance with Regulation 25(1) of the Environment Regulations (**Section 5.3**). This methodology is consistent with NOPSEMA's guideline and demonstrates that, in order to meet the requirements of Regulation 34 (criteria for EP acceptance) when preparing the EP, Woodside understands:

- our planned activities in the Operational Area, being the area in which our planned activities are proposed to occur (see **Section 3.2**); and
- the geographical extent to which the environment may be affected (EMBA) by risks and impacts from our activities (unplanned) (identified in **Section 4.1** and assessed in **Section 6.7**).

Woodside has undertaken consultation in the course of preparing this EP in compliance with regulation 25 of the Environment Regulations, which requires a titleholder to:

- consult with each of the following (a **relevant person**) in the course of preparing an environment plan:
 - each Commonwealth, State or Northern Territory agency or authority to which the activities to be carried out under the environment plan may be relevant;
 - if the plan relates to activities in the offshore area of a State – the Department of the responsible State Minister;
 - if the plan relates to activities in the Principal Northern Territory offshore area - the Department of the responsible Northern Territory Minister;
 - a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the EP; and

- any other person or organisation that the titleholder considers relevant (regulation 25(1)).
- give each relevant person sufficient information to allow the relevant person to make an informed assessment of the possible consequences of the activity on their functions, interests or activities (regulation 25(2));
- allow a relevant person a reasonable period for the consultation (regulation 25(3)); and
- tell each relevant person that the titleholder consults with, that the relevant person may request that particular information it provides in the consultation not be published and any information subject to such a request is not to be published (regulation 25(4)).

Further, Woodside seeks to carry out consultation in a manner that:

- is consistent with the principles of ecologically sustainable development (ESD) set out in Section 3A of the EPBC Act – see **Section 2**
- is intended to reduce the environmental impacts and risks from the activity to ALARP and an acceptable level (regulation 4);
- seeks to ensure that the environmental impacts and risks of the activity will be of an acceptable level (regulation 4);
- is intended to minimise harm to the relevant person and the environment from the proposed petroleum activities and to enable Woodside to consider measures that may be taken to mitigate the potential adverse environmental impacts from the petroleum activity;
- is collaborative. Woodside respects that, for a relevant person, consultation is voluntary. Where the relevant person seeks to engage, Woodside engages with the relevant person with the aim of seeking genuine and meaningful two-way dialogue; and
- provides opportunities for relevant persons to provide feedback throughout the life of the EP through its ongoing consultation process (refer to **Section 5.7** and **Section 7.10.3.1**).

An overview of Woodside’s consultation approach is outlined at **Figure 5-2**.

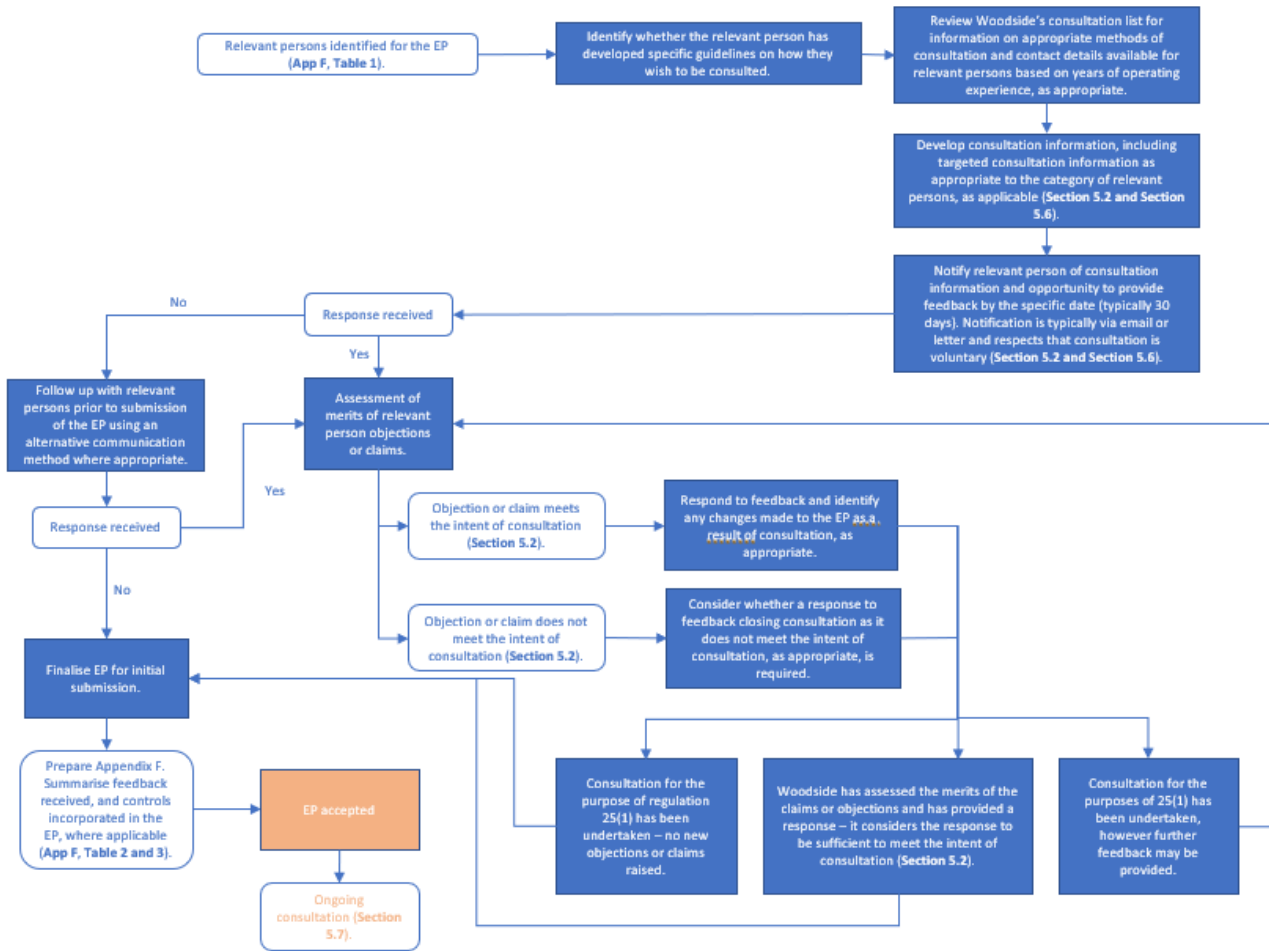


Figure 5-2: Overview of Woodside’s consultation approach.

The methodology for consultation for this activity has been informed by various guidelines and relevant information for consultation on planned activities, including:

Federal Court:

- [Santos NA Barossa Pty Ltd v Tipakalippa \[2022\] FCAFC 193](#)
- [Munkara v Santos NA Barossa Pty Ltd \(No 3\) \[2024\] FCA9](#)

NOPSEMA:

- [GL2086 – Consultation in the course of preparing an environment plan – May 2023](#)
- [GN1847 – Responding to public comment on environment plans – January 2024](#)
- [GN1344 - Environment plan content requirements - September 2020](#)
- [GL1721 – Environment Plan decision making – January 2024](#)
- [GN1488 - Oil pollution risk management - July 2021](#)
- [GN1785 – Petroleum activities and Australian Marine Parks – January 2024](#)
- [GL 1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2024](#)

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- [PL9028 Managing gender-restricted information – December 2023](#)
- [Consultation on offshore petroleum environment plans – Information for the community](#)

[Department of Climate Change, Energy, the Environment and Water:](#)

- [Sea Countries of the North-West; Literature review on Indigenous connection to and uses of the North West Marine Region](#)

Australian Fisheries Management Authority:

- [Petroleum industry consultation with the commercial fishing industry](#)

Commonwealth Department of Agriculture and Water Resources:

- [Fisheries and the Environment – Offshore Petroleum and Greenhouse Gas Act 2006](#)
- [Offshore Installations Biosecurity Guide](#)

WA Department of Primary Industries and Regional Development:

- [Guidance statement for oil and gas industry consultation with the Department of Fisheries](#)

WA Department of Transport:

- [Offshore Petroleum Industry Guidance Note](#)

Good practice consultation:

- [IAP2 Public Participation Spectrum](#)
- [Interim Engaging with First Nations People and Communities on Assessments and Approvals under the Environment Protection and Biodiversity Act 1999](#)

5.3 Identification of Relevant Persons for Consultation

5.3.1 Regulations 25(1)(a), (b) and (c)

The relevant inquiry for determining relevant persons within the description of regulations 25(1)(a) and (b) is whether the activities to be carried out under the EP may be relevant to one of the government departments or agencies in those regulations. The government departments and agencies relevant to the EP are listed in **Appendix F, Table 1**. In accordance with regulation 25(1)(b), Woodside consults with the Department of the relevant State Minister.

5.3.2 Identification of relevant persons under regulation 25(1)(a), (b) and (c)

The relevant inquiry for determining relevant persons within the description of regulations 25(1)(a) and (b) is whether the activities to be carried out under the EP may be relevant to one of the government departments or agencies in those regulations. The government departments and agencies relevant to the EP are listed in Appendix F, Table 1. In accordance with regulation 25(1)(b), Woodside consults with the Department of the relevant State Minister.

Identification of relevant persons under regulation 25(1)(a), (b) and (c)

Woodside's methodology for identifying relevant persons under regulations 25(1)(a), (b) and (c) is as follows:

Woodside considers the defined responsibilities of each of the departments and agencies to which the activities in the EMBA to be carried out under the EP may be relevant. This list of relevant department and agencies is formulated by reference to the responsibilities of the government departments as set out on their websites, in NOPSEMA's GL1887 – Consultation with

Commonwealth agencies with responsibilities in the marine area guideline (January 2023), which describes where the Department is a relevant agency under the Environment Regulations, as well as experience and knowledge that Woodside has gained from years of operating in relation to the departments and agencies which Woodside has historically consulted over the years. This list is revised from time to time, for example, for the purposes of accommodating government restructures, renaming of departments, shifting portfolios and/or to account for new agencies that might arise.

Woodside has categorised government department or agency groups as follows:

Government departments / agencies – marine	Agencies with legislated responsibilities for use of the marine environment.
Government departments / agencies – environment	Agencies with legislated responsibilities for the protection of the marine environment.
Government departments / agencies – industry	The legislated Department of the responsible Commonwealth, State or Northern Territory Minister for Industry.

Woodside considers each of the responsibilities of the departments and agencies and determines whether those responsibilities overlap with potential risks and impacts specific to the proposed petroleum activity in the EMBA. The assessment is both activity and location based.

Woodside acknowledges the roles and responsibilities of government departments and agencies acting on behalf of various industry participants. For example, AMSA – Marine Safety is responsible for the safety of vessels and the seafarers who are operating in the domestic commercial shipping industry and AHO is responsible for maritime safety and Notices to Mariners. To undertake the PAP in a manner that prevents a substantially adverse effect on the potential displacement of marine users, Woodside therefore consults AMSA – Marine Safety and AHO on its proposed activities. Woodside considers each of the responsibilities of the departments and agencies and determines those that would either be involved in the incident response itself or in relation to the regulatory or decision-making capacity with respect to planning for the unlikely event of a worst-case hydrocarbon release incident response specific to the PAP. Feedback received, if any, is assessed in accordance with the intended outcome of consultation.

The list of those government departments and agencies assessed as relevant is set out in Appendix F, Table 1.

Feedback received, if any, is assessed in accordance with the intended outcome of consultation and summarised at Appendix F, Table 2 and Table 3 as appropriate to the relevance assessment.

Woodside consults with departments or agencies with interests that overlap planned or unplanned risks and impacts associated with the proposed petroleum activity within the EMBA or would be involved in incident response planning.

5.3.3 Regulation 25(1)(d)

In order to identify a relevant person for the purposes of regulation 25(1)(d), the meaning of “functions, interests or activities” needs to be understood. In regulation 25(1)(d), the phrase “functions, interests or activities” should be construed broadly and consistently with the objects of the Environment Regulations (regulation 4) and the objects of the EPBC Act (section 3A).

In developing its methodology for consultation, Woodside acknowledges that the guidance on the definition of functions, interests and activities is as follows in accordance with NOPSEMA’s GL2086 – Consultation in the course of preparing an environment plan guideline (May 2023):

Functions	Refers to a power or duty to do something.
-----------	--

Interests	Conforms to the accepted concept of 'interest' in other areas of public administrative law and includes any interest possessed by an individual whether or not the interest amounts to a legal right or is a proprietary or financial interest or relates to reputation.
Activities	Broader than the definition of 'activity' in regulation 5 of the Environment Regulations and is likely be directed to what the relevant person is already doing.

Woodside's methodology for determining 'relevant persons' for the purpose of regulation 25(1)(d) of the Environment Regulations includes consideration of:

- whether a person or organisation has functions interests or activities that overlap with the Operational Area and EMBA; and
- whether a person or organisation's functions, interests or activities may be affected by Woodside's proposed planned or unplanned activities.

5.3.4 Identification of relevant persons under regulation 25(1)(d))

Relevant persons under regulation 25(1)(d) are defined as a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the EP. In identifying relevant persons, Woodside considers:

- the planned activities to be carried out under this EP (described in Section 3); and
- the EMBA by unplanned activities (identified in Section 4 and assessed in Section 6).

To identify relevant persons who fall within regulation 25(1)(d), Woodside adopts the following methodology, and then undertakes consultation with relevant persons.

- As a general proposition, Woodside assesses whether a person or organisation is a relevant person having regard to:
 - whether a person or organisation has functions, interests or activities that overlap with the PAA and EMBA; and
 - whether a person or organisation's functions, interests or activities may be affected by Woodside's proposed planned or unplanned activities to be carried out under the EP.
- This assessment will include applying judgement, knowledge and current literature.
- Further, to assist in identifying the full range of relevant persons, Woodside considers the impacts and risks associated with its proposed activities and considers the broad categories of relevant persons who may be affected by the activities proposed to be carried out under the EP. The broad categories are identified in Table 5-1 below and identification methodology applied as set out in Table 5-2.
- The list of those persons or organisations assessed as relevant and persons or organisations Woodside separately chose to contact is set out in Appendix F, Table 1.
- Feedback received, if any, is assessed in accordance with the intended outcome of consultation and applying the categories of relevant persons methodology outlined in Table 5-2, as appropriate.
- Feedback from relevant persons is summarised at Appendix F, Table 2. Feedback from persons assessed as "not relevant" but whom Woodside chose to contact or self-identified and Woodside assessed as "not relevant" are summarised at Appendix F, Table 3.

Table 5-1: Categories of relevant persons

Category	Explanation
Commercial fisheries (Commonwealth and State) and peak representative bodies	Commonwealth or State Commercial Fishery with a fishery management plan recognised under the Commonwealth Fisheries Management Act 1991 (Cth) and Western Australian Fish Resources Management Act 1994 (WA), which may be amended from time to time. Commonwealth peak fishery representative bodies are identified by AFMA. WAFIC is the peak representative body for state fishers in Western Australia.
Recreational marine users and peak representative bodies	Charter boat, tourism and dive operators identified by DPIRD specific to the location of the proposed activity. Representative bodies are the recognised peak organisation(s) for recreational marine users.
Titleholders and Operators	Registered holder of an offshore petroleum title or GHG title governed by the OPGGS Act and associated regulations.
Peak industry representative bodies	Recognised peak organisation(s) for the oil and gas sector.
Traditional Custodians (individuals and/or groups/entity)	Traditional Custodians are First Nations Australians who hold cultural rights and interests or have cultural functions or perform cultural activities over particular lands and waters. Where a First Nations person, group or entity self-identifies and/or asserts cultural rights, functions, interests or activities they will be included in the definition of Traditional Custodian for the purpose of this EP.
Nominated Representative Corporations	Nominated representative corporations are Traditional Custodians' nominated representative institutions such as Prescribed Body Corporates (PBC). PBCs are established under the Native Title Act 1993 by Traditional Custodians to represent their entire Traditional Custodian group (defined broadly by reference to descents from an ancestor set who were known to be the Traditional Custodians at the time of European colonisation) and their interests including, among other things, management and protection of cultural values.
Native Title Representative Bodies	A Representative Aboriginal/Torres Strait Islander Bodies (RATSIB) is a regional organisation appointed under the Native Title Act 1993 (NTA) with prescribed functions, set out in Part 11 of the Native Title Act 1993, which relate to: facilitation and assistance; certification; dispute resolution; notifications; agreement making. They are also known, and referred to here, as Native Title Representative Bodies.
Historical heritage groups or organisations	Legislated or government enlisted groups or organisations responsible for the management of marine heritage.
Local government and recognised local community reference/liaison groups or organisations	Local government governed by the Local Government Act 1995 (WA) which is responsible for representing the local community. Recognised local community reference/liaison group or organisation in relation to oil and gas matters.
Other non-government groups or organisations	Non-government organisation with public website material targeting the proposed activity.
Research institutes and local conservation groups or organisations	Research institutes are government or private institutions that conduct marine or terrestrial research. Local conservation groups are local non-government organisation that regularly conduct conservation activities focused on the local environment or wildlife.

Table 5-2: Methodology for identifying relevant persons within the EMBA undertaken under subcategory 25(1)(d) – by category

Category	Relevant person identification methodology
<p>Commercial fisheries (Commonwealth and State) and peak representative bodies</p>	<p>Woodside assesses relevance for commercial fisheries (Commonwealth and State) and their representative bodies using the following next steps in its methodology:</p> <p>Defining the parameters having regard to timing, location and duration of the proposed petroleum activity.</p> <p>Confirming whether the EMBA overlaps with the fisheries management area (i.e. the spatial area the fishery is legally permitted to fish in) (see Section 4.9.2</p> <p>Woodside acknowledges WAFIC’s consultation guidance⁶ (accessed on 2 February 2023), that Titleholders develop separate consultation strategies for significant unplanned events (for example oil spill) where Titleholders can demonstrate the likelihood of such events occurring is extremely low. WAFIC’s guidance is that consultation on unplanned events resulting in an emergency scenario should only be undertaken if an incident occurs (see Appendix F).</p> <p>For Commonwealth and State commercial fisheries, Woodside assesses the potential spatial and temporal extent for interaction with the fishery by reviewing AFMA ABARES and DPIRD Fishcube data within the Operational Area and EMBA (see Section 4.9.2).</p> <p>Assessment of relevance:</p> <p>State commercial fisheries that have been assessed as having a potential for interaction within the Operational Area or EMBA (see Section 4.9.2) are assessed as relevant to the proposed activity. Woodside acknowledges WAFIC’s consultation guidance¹ (see above) and applies this by:</p> <p>directly consulting fishery licence holders that are assessed as having a potential for interaction in the Operational Area; and</p> <p>consulting fisheries that are assessed as having a potential for interaction in the EMBA via WAFIC.</p> <p>Commonwealth commercial fisheries that have been assessed as having a potential for interaction within the Operational Area or EMBA (see Section 4.9.2) are assessed as relevant to the proposed activity.</p> <p>If Woodside has identified that a Commonwealth or State fishery is a relevant person, then Woodside also consults the fisheries relevant representative body. For example, WAFIC represents the interests of State fisheries in Western Australia. If a State fishery is identified as relevant, Woodside would also identify WAFIC as relevant. Recognised Commonwealth fishery representative bodies are identified by AFMA via its website. WAFIC is the only recognised State fishery representative body.</p>
<p>Recreational marine users and peak representative bodies</p>	<p>Woodside assesses relevance for recreational marine users and peak representative bodies using the following next steps in its methodology:</p> <p>From Woodside knowledge and operating experience, knowledge of recreational marine users in the area. This assessment is both activity and location based.</p> <p>Defining the parameters having regard to timing, location and duration of the proposed petroleum activity.</p> <p>Assessing the potential spatial and temporal extent for interaction with recreational marine users by reviewing DPIRD Fishcube data to assess whether there has been activity within the EMBA in the past 5 years.</p> <p>Assessment of relevance:</p> <p>Recreational marine users that have been active in the past 5 years within the EMBA are assessed as relevant to the proposed activity. Woodside is provided with the contact details of charter, boat tourism and dive operators specific to the region of the EMBA by DPIRD to consult with the relevant persons.</p> <p>If Woodside has identified recreational marine users as relevant persons, then Woodside also consults identified peak recreational marine user representative bodies. For example, Recfishwest represents the interests of recreational fishers. These representative bodies are identified via Woodside’s existing consultation list, which is updated as appropriate via advice from known groups and DPIRD.</p>
<p>Titleholders and Operators</p>	<p>Woodside assesses relevance for other Titleholders and operators using the following next steps in its methodology:</p>

⁶ Consultation Approach for Unplanned Events - WAFIC

Category	Relevant person identification methodology
	<p>Using WA Petroleum Titles (DMIRS-011) to determine overlap with other Titleholders or Operators permit areas within the EMBA.</p> <p>From Woodside knowledge and operating experience, knowledge of other operators in the area.</p> <p>Woodside produces a map showing the outcome of this assessment.</p> <p>Assessment of relevance:</p> <p>Titleholders and Operators whose permit areas are identified as having an overlap within the EMBA are assessed as relevant.</p>
<p>Peak industry representative bodies</p>	<p>Woodside assesses relevance for peak industry representative bodies using the following next steps in its methodology:</p> <p>Review of peak industry representative bodies responsibilities that Woodside actively participates in, with consideration of overlap between industry focus area and Woodside’s proposed activities within the EMBA.</p> <p>Review of Woodside’s existing consultation list.</p> <p>Website search to identify whether any additional peak industry representative bodies have been created whose responsibilities may overlap with Woodside’s proposed activities within the EMBA.</p> <p>Assessment of relevance:</p> <p>Peak industry representative bodies whose responsibilities are identified as having an overlap with Woodside’s proposed activities within the EMBA are assessed as relevant.</p>
<p>Traditional Custodians (individuals and/or groups/entity) and Nominated Representative Corporations</p>	<p>Consistent with its understanding of the matters discussed in Section 4.9, to identify Traditional Custodian groups or individuals, Woodside:</p> <p>Uses existing systems of recognition to identify First Nations groups who overlap or are coastally adjacent to the EMBA (for example, recognition provided under native title or cultural heritage legislation, or marine park management plans, or identification by other First Nations groups or entities);</p> <p>Notifies and invites consultation with First Nations people through their nominated representative corporation (for example PBCs); or, in the case of native title, and where appropriate, the Native Title Representative Body</p> <p>Requests the nominated representative body to forward the notifications and invitations to consult to their members (members are individual communal rights holders);</p> <p>Requests advice as to other First Nations groups or individuals that should be consulted;</p> <p>Advertises widely so as to invite self-identification and consultation by First Nations groups and/or individuals.</p> <p>Further detail to Woodsides methodology is as follows.</p> <p>Woodside uses the databases of the National Native Title Tribunal:</p> <p>to understand whether there are any Native Title Claims (historical or current) or determinations overlapping or coastally adjacent to the EMBA;</p> <p>to understand whether there are any relevant Indigenous Land Use Agreements (ILUA), registered with the National Native Title Tribunal that overlap or are adjacent to the EMBA that may identify Traditional Custodians or representative bodies to contact regarding potential cultural values.</p> <p>Where there is a positive determination of native title, contacting the PBC or, where their representative is a Native Title Representative Body contacting the Native Title Representative Body.</p> <p>Where appropriate, contacting the relevant Native Title Representative Body to request a list of any First Nations groups asserting Traditional Custodianship over an area of coastline adjacent to the EMBA.</p> <p>Review of Commonwealth and State Marine Park Management Plans that overlap the EMBA which may identify Traditional Custodians or representative bodies to contact regarding potential cultural values.</p> <p>First Nations groups or individuals identified by a Traditional Custodian, nominated representative corporation, Native Title Representative Body.</p> <p>Request to the PBC to distribute Woodside consultation materials through its membership. Woodside is unable to contact this membership through any other means.</p>

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Category	Relevant person identification methodology
	<p>Woodside has a number of public notification and information sharing processes by which individual Traditional Custodians can become aware of the proposed activity, its risks and impacts, and self identify.</p> <p>Individuals that consider their functions, interests or activities may be affected by a proposed activity are provided an opportunity to self-identify for each EP. Woodside does not presume that self-identification for an activity, covered by another EP, automatically means that an individual/s functions, interest and activities may be affected by other activities where EMBA's overlap. This decision is for the individual to make. The public notification, information sharing, and consultation processes Woodside puts in place enables Traditional Custodians to become aware of proposed activities, assess any risks and impacts to their values, and enable individuals to self-identify.</p> <p>Assessment of relevance:</p> <p>Traditional Custodian groups, entities or individuals and Nominated Representative Corporations who are identified through the above methodology and overlap or are coastally adjacent to the EMBA are assessed as relevant.</p>
<p>Native Title Representative Bodies</p>	<p>Woodside assesses relevance for Native Title Representative Bodies using the following steps in its methodology:</p> <p>A Representative Aboriginal/Torres Strait Islander Bodies (RATSIB) is a regional organisation appointed under the Native Title Act 1993 (NTA) with prescribed functions set out in Part 11 of the Native Title Act 1993, which relate to: facilitation and assistance; certification; dispute resolution; notifications; agreement making. They are also known, and referred to here, as Native Title Representative Bodies.</p> <p>Review of National Native Title Tribunal RATSIB areas that overlap or are coastally adjacent to the EMBA.</p> <p>Assessment of relevance:</p> <p>Where the area for which a Native Title Representative Body is recognised under the Native Title Act 1993, overlaps with the EMBA or is coastally adjacent to the EMBA, Woodside will assess the Native Title Representative Body as relevant.</p>
<p>Historical heritage groups or organisations</p>	<p>Woodside assesses relevance for groups or organisations whose responsibilities are focused on historical heritage using the following next steps in its methodology:</p> <p>Using the Australasian Underwater Cultural Heritage Database to assess any known records Maritime Cultural Heritage sites (shipwrecks, aircraft and relics) within the EMBA (see Section 4.9.1.9).</p> <p>Assessment of relevance:</p> <p>Where there is a known underwater heritage site (shipwrecks, aircraft and relics) within the EMBA, the relevant group or organisation that manages the site will be assessed as relevant.</p>
<p>Local government and recognised local community reference/liaison groups or organisations</p>	<p>Woodside assesses relevance for local government and recognised local community reference/liaison groups or organisations using the following next steps in its methodology:</p> <p>Review of Woodside maps (developed based on data from the WA Local Government, Sport and Cultural Industries My Council database and WA Local Government Association (WALGA) Local Government Directory maps) to assess any overlap between the local government's defined area of responsibility and the EMBA.</p> <p>Woodside hosts regular community reference/liaison group meetings. Members represent a cross-section of the community and local towns interests. Representatives are from community and industry and generally include, Woodside, State Government (for instance relevant Regional Development Commissions), Local Government, Indigenous Groups, Industry representative bodies, Community and industry organisations. Woodside considers these reference/liaison groups to be the appropriate recognised representatives of the local community for the oil and gas sector.</p> <p>Woodside reviews the community reference/liaison group's terms of reference to determine its area of responsibility and any overlap with the EMBA. For example, the Exmouth Community Liaison Group's area of responsibility in relation to Woodside's operational, development and planning activities, is defined in the terms of reference as the Exmouth sub-basin. Comparatively, the Karratha Community Liaison Group's area of responsibility is the Pilbara region (i.e. onshore).</p> <p>Assessment of relevance:</p> <p>The local government whose defined area of responsibility overlaps the EMBA is assessed as relevant.</p>

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Category	Relevant person identification methodology
	The community reference/liaison group whose defined area of responsibility overlaps the EMBA is assessed as relevant and consulted collectively via the relevant reference/liaison group.
Other non-government groups or organisations	<p>Woodside assesses relevance for other non-government groups or organisations using the following next steps in its methodology:</p> <p>Review of Woodside’s existing consultation list.</p> <p>Website search of registered non-government groups or organisations (i.e. registered with an Australian Business Number (ABN) and publicly available contact information) that may have public website material specific to the proposed activity at the time of development of the EP.</p> <p>Organisation has a publicly available mission statement (or purpose) that clearly describes their collective functions, interests or activities.</p> <p>Review of current website material to identify targeted information which demonstrates functions, interests or activities relevant to the potential risks and impacts associated with planned activities.</p> <p>Assessment of relevance:</p> <p>Registered non-government groups or organisations with current targeted public website material specific to the proposed activity at the time of developing the EP and who have demonstrated functions, interests or activities relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation will be assessed as relevant.</p>
Research institutes and local conservation groups or organisations	<p>Woodside assesses relevance for research institutes and local conservation groups or organisations using the following next steps in its methodology:</p> <p>Review of Woodside’s existing consultation list.</p> <p>Website search for research institutes that may operate within the EMBA. This assessment is both activity and location based.</p> <p>Website search for local conservation groups or organisations that regularly conduct conservation activities within the EMBA.</p> <p>Assessment of relevance:</p> <p>Where there is known research being undertaken by a research institute within the EMBA, the research institute that is conducting the research will be assessed as relevant.</p> <p>Local environmental conservation groups who regularly conduct conservation activities or have demonstrated conservation functions, interests or activities within the EMBA are assessed as relevant. This assessment is both activity and location based.</p>

5.3.5 Regulation 25(1)(e)

In addition to assessing relevance under regulation 25(1)(d), Woodside has discretion to categorise any other person or organisation as a relevant person under regulation 25(1)(e).

5.3.6 Identification of relevant persons under regulation 25(1)(e)

Woodside adopts a case-by-case approach for each EP to assess relevance under regulation 25(1)(e).

5.3.7 Persons or organisations Woodside chooses to contact

In addition to undertaking consultation with relevant persons under regulation 25(1) there are persons or organisations that Woodside chooses to contact, from time to time, in relation to a proposed activity. For example, these are persons or organisations:

- that are ‘not relevant’ pursuant to regulation 25(1) but that Woodside has chosen to seek additional guidance from, for example, to inform the correct contact person that Woodside should consult, or engage with;
- that are ‘not relevant’ pursuant to regulation 25(1) but have been contacted as a result of consultation requirements changing or updated guidance from the Regulator; and

- where it is unclear what their functions, interests or activities are, or whether their functions, interests or activities may be affected. In this circumstance, engagement is required to inform relevance under Woodside's methodology. Woodside follows the same methodology for assessing a person or organisations relevance as it does during its initial assessment (as described in Figure 5-1 and Section 5.3). The result of Woodside's assessment of relevance during the development of the EP is outlined at Appendix F, Table 1.

5.3.8 Assessment of Relevant Persons for the Proposed Activity

The result of Woodside's assessment of relevant persons in accordance with regulation 25(1) is outlined at Appendix F, Table 1 and Appendix F, Table 2.

Persons or organisations that Woodside assessed as not relevant but chose to contact at its discretion in accordance with Section 5.3.4 or self-identified and Woodside assessed as not relevant are summarised at Appendix F, Table 1 and Appendix F, Table 3.

5.4 Consultation Material and Timing

Regulation 25(2) provides that a 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. Regulation 25(3) provides that the titleholder must allow a relevant person a reasonable period for the consultation.

As set out in Section 5.2, Woodside notifies relevant persons, of the proposed activities, respecting that consultation is voluntary (for the relevant person) and collaborates on a consultation approach where further engagement is sought by the relevant person. Woodside understands that the consultation process should be appropriate for the category of relevant persons and that not all persons or organisations will require the same level of engagement. Woodside recognises that the level of engagement is dependent on the nature and scale of the PAP. Woodside recognises published guidance for good practice consultation relevant to different sectors and disciplines. Woodside's methodology for providing relevant persons with sufficient information as well as a reasonable period of time to provide feedback is set out in this section.

5.4.1 Sufficient Information

Woodside produces a Consultation Information Sheet for each EP. This is provided to relevant persons and organisations and is also available on Woodside's website for interested parties to access and to provide feedback on. The Consultation Information Sheet typically includes a description of the proposed petroleum activity, the Operational Area or Petroleum Activities Area (PAA) depending on the EP, where the activity will take place, the timing and duration of the activity, a location map of the Operational Area or PAA and EMBA, a description of the EMBA, relevant exclusion zones as well as a summary of relevant risks and mitigation and/or management control measures relevant to the proposed petroleum activity. It also sets out contact details to provide feedback to Woodside.

Woodside recognises that the level of information necessary to assist a person or organisation to understand the impacts of the proposed activity on their functions, interests or activities may vary and, also may depend on the degree to which a relevant person is affected. For example, Woodside considers that relevant persons who may be impacted by planned activities in the Operational Area, as a result of temporary displacement due to exclusion zones, may require more targeted information relevant to their functions, interests or activities. A titleholder can be said to have provided sufficient information even where it has not provided all documents requested by a relevant person. Woodside also acknowledges NOPSEMA's brochure entitled Consultation on offshore petroleum environment plans information for the community, which advises consultees that they may inform titleholders that they only want to be consulted in the very unlikely event of an oil spill.

Woodside places advertisements in selected local, state and national newspapers. This typically includes the name of the EP Woodside is seeking feedback on, an overview of the activity, the consultation feedback date and the ways in which a person or organisation can provide feedback. Advertising in the local paper in the area of the activity is also consistent with the public notification process under section 66 of the Native Title Act for native title applications. Woodside typically aligns advertisement feedback timeframes with the timing described below. Feedback received is assessed in accordance with Section 5.3 to determine relevance and evidenced in Appendix F, Table 1 as appropriate.

Woodside utilises a range of tools to provide sufficient information to relevant persons, which may include one or more of the following:

- Consultation Information Sheet available on Woodside’s website
- Summary Consultation Information Sheet, presentations or summaries specific to a particular relevant person group
- subscription available on Woodside’s website to receive notification of new Consultation Information Sheets for Woodside EPs
- emails
- letters
- phone calls
- face-to-face meetings (virtual or in person) with presentation slides or handouts as appropriate
- maps outlining a persons or organisations defined area of responsibility in relation to the proposed activity, for example a fisheries management area or defence training area, and
- community meetings, as appropriate.

Woodside recognises that information may need to be provided to relevant persons in an iterative manner during the consultation process. Woodside considers that genuine two-way engagement may be demonstrated via information on incorporation of controls, where applicable, being provided to the relevant person so that the relevant persons understand how their input has been considered in the development of the EP.

Woodside communicates with relevant persons in different ways. Woodside recognises that as part of genuine two-way dialogue, these forms of communication may evolve, including for example due to changes to organisation representation, as relationships are further established, or an alternative form of communication is expressed by a person or organisation. Woodside acknowledges that there might be limitations in how it can consult with relevant persons.

Typical forms of communications for categories of relevant persons are set out below.

Category of relevant person	Typically accepted form of communication
Government departments / agencies – marine	Woodside applies NOPSEMA’s guideline for engagement with Commonwealth government departments or agencies in line with GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2023 by using email for its consultation unless another form of communication is requested.
Government departments / agencies – environment	
Government departments / agencies – industry	Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.

Commercial fisheries and peak representative bodies	Commonwealth commercial fisheries: Email is used as the primary form of communication with Commonwealth commercial fisheries in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Recreational marine users and peak representative bodies	<p>State commercial fisheries and recreational marine users: The Western Australian Department of Primary Industries and Regional Development (DPIRD) has responsibility for managing the Fish Resources Management Act 1994 and Aquatic Resources Management Act 2016, which limits the provision of contact details from the register to the name and business address of licence holders. Alternative forms of communication are at the licence holder's discretion. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.</p> <p>Peak representative bodies: Email is used as the primary form of communication with commercial fishery and recreational marine user peak representative bodies in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.</p>
Titleholders and Operators	Email is used as the primary form of communication between titleholders and operators in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Peak industry representative bodies	Email is used as the primary form of communication with peak representative bodies in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Traditional Custodians and nominated representative corporations	There are many forms of communication that Woodside uses on a case-by-case basis and as appropriate to or requested by the specific group, such as email, phone calls, meetings and community forums. Other forms of communication are used on request.
Native Title Representative Bodies	There are many forms of communication that Woodside uses on a case-by-case basis and as appropriate to or requested by the specific group, such as email, phone calls, meetings and community forums. Other forms of communication are used on request.
Historical heritage groups or organisations	NOPSEMA's guideline (GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2023) for engagement with government departments or agencies is used as a reference for Woodside's approach for communicating with historical heritage groups or organisations. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Local government and recognised local community	Local government: NOPSEMA's guideline (GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2023) for engagement with local government is used

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reference/liaison groups or organisations	as a reference for Woodside’s approach for communicating with historical heritage groups or organisations. Community reference/liaison groups and chambers of commerce: Email is used as the primary form of communication with local community reference/liaison groups or organisations in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Other non-government groups or organisations	Email is used as the primary form of communication with Other non-government groups or organisations. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Research Institutes and Local conservation groups or organisations	Email is used as the primary form of communication with research institutes and local conservation groups or organisations. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.

Information which is provided to relevant persons for the purposes of consultation on this EP is summarised at Appendix F, Table 2.

Appendix F, Table 3 sets out the information which is provided to persons or organisations that are not relevant for the purposes of regulation 25 but which Woodside has chosen to contact.

When engaging in consultation, Woodside notifies relevant persons that, in accordance with regulation 25(4), the relevant person may request that particular information the person or organisation provides in the consultation not be published and that information subject to that request will not be published.

5.4.1.1 Reasonable period for consultation

Woodside seeks to consult in order to support preparation of its Environment Plan. Woodside recognises that what constitutes a reasonable period for consultation should be considered on a case-by-case basis, with reference to the nature, scale and complexity of the activity.

Woodside recognises that information may need to be provided to relevant persons in an iterative manner during the consultation process. Woodside considers that genuine two-way engagement may be demonstrated on incorporation of controls, where applicable, being provided to the relevant person so that the relevant person understands how their input has been considered in the development of the EP.

Woodside considers its methodology allows relevant persons a reasonable period for consultation (regulation 25(3)). A reasonable period for all relevant persons, including Traditional Custodian relevant persons, to participate in consultation for this EP has been provided.

The consultation period under this EP has satisfied benchmark periods under other relevant legislative processes:

- Regulation 30 of the Regulations sets out a public consultation period of 30 days
- The Department of Mines and Petroleum “Guidelines for Consultation with Indigenous People by Mineral Explorers” directs a period of 21- 30 days of consultation with traditional owners
- While repealed, guidance taken from the Aboriginal Cultural Heritage Act 2021— Consultation Guidelines (Government of Western Australia, 2023) suggests that up to 12

weeks may be a reasonable period of time to allow identification, contact, and response, from First Nations peoples (subject to any alternative timeframe being agreed through co-design of consultation).

This period of consultation demonstrates that Woodside has provided a “reasonable period” for relevant persons to consult in accordance with regulation 25(3). Commentary in the Tipakalippa Appeal judgment limits consultation to a process that must be capable of being discharged within a reasonable time:

“it must be taken to be the regulatory intention that the consultation requirement cannot be one that is incapable of being complied with within a reasonable time...”⁷

Woodside seeks feedback in order to support preparation of its environment plan. What constitutes a reasonable period for consultation is considered on a case-by-case basis, with reference to the person being consulted and the nature, scale and complexity of the activity.

Woodside's typical approach to enable a reasonable period for consultation is as follows:

- advertising in selected local, state and national newspapers to give persons or organisations the opportunity to understand the activity and identify whether their functions, interests or activities may be affected;
- providing consultation materials directly to identified relevant persons as well as persons who are not relevant but Woodside chose to contact, and providing a target date for feedback. Woodside acknowledges that feedback may be received from relevant persons following the target date;
- acknowledging that the way in which Woodside provides consultation information may vary depending on the relevant person or organisation and, may depend on the degree to which a relevant person or organisation is affected. Different consultation processes may be required for relevant persons and organisations depending on the information requirements;
- following up with relevant persons prior to EP submission. Where possible, Woodside will endeavour to use an alternative method of communication to contact the relevant person; and
- engaging in two-way dialogue with relevant persons or organisations where feedback is received.

Appendix F, Table 2 and Table 3 sets out a history of consultation and demonstrates that a reasonable period of consultation has been afforded for each relevant person.

Woodside considers that the “reasonable period” of consultation for this EP has closed.

As detailed in Section 5.6, if comments and feedback are received after the EP has been submitted, Woodside will consider those comments and update controls as appropriate, at all stages during the life of the EP as per Woodside's ongoing consultation approach as described in Section 5.7.

5.4.2 Discharge of Regulation 25

The Full Federal Court made clear in the Tipakalippa Appeal that consultation should be approached in a “reasonable”, “pragmatic” and “not so literal” way, so that consultation obligations were capable of being met by titleholders (Section 5.5.1).⁸ Consultation is a “real world activity” and must be capable of reasonable discharge.⁹ The Full Federal Court referred to Native Title cases as an

⁷ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [136].

⁸ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 [89], [98], [103]-[104] and [109].

⁹ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at [89].

illustration that reasonable limits should be applied to consultation efforts to ensure the process is workable.¹⁰

When the titleholder demonstrates that it has provided sufficient information and a reasonable period for consultation, the regulation 25 consultation requirements are met.¹¹ Meeting these obligations requires evaluative judgment to determine reasonable satisfaction of the consultation obligation, and as such, the regulator uses its discretion to determine if these criteria are met. The nature of the person being consulted, and their function, interest and activity that may be affected, will inform the manner of consultation and the reasonable period to be afforded.¹²

The titleholder is not required to obtain consent from a consultee to engage in the activity or confirmation from a consultee that consultation is complete. A titleholder is required to provide an opportunity to consult - the Federal Court has commented that a “reasonable opportunity” for consultation must be afforded to relevant persons.¹³ A reasonable opportunity may not be every opportunity requested and is limited to reasonable opportunities to consult.

Woodside has completed reasonable steps to discharge its consultation obligations. Woodside has provided sufficient information and a reasonable period of time to enable relevant persons to make an informed assessment of the possible consequences of the activity on their functions, interests or activities, and sufficient time to provide relevant feedback for Woodside to assess relevant persons' objections or claims and action the assessment and response. Woodside has also provided a reasonable opportunity for there to be genuine two-way dialogue on environmental impacts and concerns.

Woodside has discharged its duty under regulation 25. Woodside considers that consultation under regulation 25 is complete.

Appendix F, Table 2 and Table 3 of this EP sets out the history of consultation under regulation 25. To the extent a relevant person says that it has further information to share or claims that consultation under regulation 25 has not completed, Appendix F, Table 2 and Table 3 provide reasons specifically why Woodside considers consultation under regulation 25 has been met in relation to that relevant person.

5.5 Context of Consultation Approach with First Nations

To comply with regulation 25 of the Environment Regulations, Woodside identifies and consults Traditional Custodians whose functions, interests or activities may be affected by the activities under an Environment Plan.

5.5.1 Approach to Methodology – Woodside’s Interpretation of Tipakalippa Appeal

Woodside has implemented a consultation methodology consistent with regulation 25 and guidance provided in the Tipakalippa Appeal (Section 5.25.2). Woodside’s consultation methodology allows for a sufficiently broad capture of Traditional Custodian relevant persons, provides for informed consultation, follows cultural protocols and allows a reasonable opportunity for consultation with

¹⁰ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at [96] and [103].

¹¹ Explanatory Statement, Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023, page 29.

¹² Explanatory Statement, Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023, page 30 and Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at [153].

¹³ Cooper v National Offshore Petroleum Safety and Environmental Management Authority (No 2) [2023] FCA 1158 at paragraph [11]; Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at [153].

Traditional Custodians whose functions, interests or activities may be affected by the activity described in this EP (Section 5.5.3.1 to 5.5.3.4).

Woodside notes the Full Federal Court discussed several Native Title Act 1993 (Cth) (NTA) cases in response to a submission made in that case that a requirement under regulation 25 to consult “each and every” relevant person would be “unworkable”. The reference to native title cases dealt with how decision-making processes under the NTA requiring “all” members of a group to be contacted for communal approval are interpreted by courts in a “reasonable”, “pragmatic” and “not so literal” way,¹⁴ and how obligations to consult “each and every” person under regulation 25 should be interpreted in a similarly pragmatic way so that consultation is workable. The reference to NTA authorities was made by analogy:

*“It can be seen that the terms of [the native title legislation] are somewhat absolute – “all”. However, [the native title legislation] has consistently been construed in a way that is not so literal ... The cases concerning [the native title legislation] ... have reiterated ... that [the native title legislation] does not require that “all” of the members of the relevant claim group be involved in the decision. The key question will be whether a reasonable opportunity to participate in the decision-making process has been afforded by the notice for a relevant meeting.”*¹⁵

*“We consider the authorities in relation to processes under the NTA to be illustrative of how a seemingly rigid statutory obligation to consult persons holding a communal interest may operate in a workable manner”*¹⁶ (emphasis added).

*“there is no definition of what constitutes “consultation for the purpose of ref 11A [updated to 25]... A titleholder will need to “demonstrate” to NOPSEMA that what it did constituted consultation appropriate and adapted to the nature of the interests of the relevant persons”*¹⁷ (emphasis added).

The Judgment in the Tipakalippa Appeal makes clear that a Titleholder will have some decisional choice in identifying which natural person(s) are to be approached, how the information will be given to allow the “relevant person” to assess the possible consequence of the proposed activities on their functions, interests or activities, and how the requisite consultation is undertaken.¹⁸ Woodside takes this to mean that consultation is not fixed to a rigid process, and indeed, will need to be adapted so that it is informed by the relevant person or group. Woodside has met its regulation 25 requirements through its consultation methodology (Section 5.2).

Consistent with the Tipakalippa Appeal, Woodside considers NTA-style “full group” meetings are not the only way for there to be compliance with regulation 25 in relation to Traditional Custodian relevant persons. Nominated representative corporations (such as Prescribed Bodies Corporates (PBCs) established under the NTA) have a designated role of representing the views of their member Traditional Custodians. They have established methods for engaging with their own members. Woodside will not undermine the purpose and authority of nominated representative corporations by requiring full group meetings where the nominated representative corporations have not requested engagement of members via full group meetings. We do not consider it appropriate for titleholders to direct or challenge the nominated representative corporations on how to engage with their members.

¹⁴ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [95], [98], [103]-[104] and [109].

¹⁵ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [98].

¹⁶ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [96].

¹⁷ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [104].

¹⁸ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [47] and [48].

Woodside's approach described below demonstrates that sufficient information and a reasonable opportunity is provided to individual Traditional Custodians to provide feedback on Woodside activities beyond the opportunity provided to nominated representative corporations.

5.5.2 Consultation Method

Woodside's First Nations team has experience in engaging and working with First Nations organisations and individuals, including having worked within the Commonwealth native title and cultural heritage systems and state and territory cultural heritage and land rights systems, for several decades. The team understands the complexities of making information accessible to groups and individuals and engaging in accordance with First Nations groups' established channels of communication and methods of consultation. The First Nations team exercises its professional judgement and is deeply respectful of long-standing relationships (where in place) when considering consultation with First Nations groups. The First Nations team's approach is also informed by the established systems of recognition for First Nations groups and their nominated representative corporations within particular jurisdictions.

For example, the methodology for engaging with First Nations groups in the Northern Territory (not relevant for this EP) tends to centre around engagement through Aboriginal land councils (under the Aboriginal Land Rights (Northern Territory) Act 1976 (Cth)) as well as community meetings that target clan groups where they do not have PBCs or other nominated representative corporations to represent them. By contrast, recognition for First Nations groups and their nominated representative corporations in Western Australia falls under the Native Title Act 1993 (Cth) because the vast majority of the Western Australian coastline is settled under the native title regime. This means that the methodology and process for consultation in Western Australia places greater emphasis on, but is not limited to, Native Title Representative Bodies and PBCs. Native title determinations provide certainty about the appropriate Traditional Custodian groups that have the cultural authority to speak for country adjacent to the EMBA, and also help Woodside to identify Traditional Custodian persons and groups asserting Traditional Custodianship. The Judgment in the Tipakalippa Appeal endorses methods of consultation with groups of relevant persons that are appropriate and adapted to the characteristics of groups.¹⁹ Woodside's consultation methodology is adapted and appropriate to the recognised systems of communal interests in Western Australia.

In Western Australia (relevant for this EP), Woodside has sought to follow the established, effective and respectful means of communication used by Native Title Representative Bodies and nominated representative corporations (including PBCs) with their respective First Nations communities. Woodside follows these processes for the appropriate broad capture of individuals' awareness of our activities, to self-identify (Section 5.5.3.1), and to provide feedback to inform the management of environmental impacts and risks.

Using these tools, Woodside communicates information about Environment Plans by:

- advertising in relevant newspapers. This encourages self-identification, by advertising proposed activities widely through newspapers that have national and intra-state circulation, i.e., Koori Mail, National Indigenous Times, The West Australian;
- creating carefully considered Consultation Summary Sheets with information developed by an Indigenous member of the First Nations Team to remove jargon and provide relevant information for people to have informed understandings about the activities;
- direct contact through nominated representative corporations;
- utilising social media (i.e. Facebook/Instagram), texts and emails. These mediums are the preferred communication methods used by Traditional Custodians throughout Western Australia and on that basis used by Native Title Representative Bodies and other government

¹⁹ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [95].[104].[153].

agencies and industry, to engage with Traditional Custodians or call meetings. First Nations woman, Professor Bronwyn Castle through 10 years of research found “Social media is an intrinsic part of daily life. The use of Facebook is around 20 per cent higher [among First Nations people] than the national average across all geographical locations” (Social media mob: being Indigenous online, Professor Bronwyn Carlson (2018));

- For ongoing consultation post regulation 25 consultation, Woodside introduced a Program of Ongoing Engagement with Traditional Custodians which sets out Woodside’s commitment to ongoing engagement and support to care for and manage country, including Sea Country. The program was developed in response to Traditional Custodian feedback;
- Woodside has members of its First Nations team who are based in Karratha and Roebourne and who serve as on-Country points of contact for First Nations organisations and individuals. These team members have broad local knowledge and established, on-the-ground relationships within communities. This helps contribute to positive outcomes including encouraging First Nations attendance and involvement at Woodside’s information sessions and Community roadshows. Team members on the ground engage in a great deal of preparatory work including by distributing information and providing notice to the community to support First Nations attendance at information sessions and Community roadshows;
- From the commencement of engagement with Traditional Custodians, Woodside seeks direction on how they prefer to be consulted and has consulted accordingly. Consultation processes that are informed by Traditional Custodians and co-designed on a case-by-case basis and includes their direction as to cultural protocols, structure of consultation and whom to appropriately consult with (such as elders).
- Holding meetings on country at a place and time agreed with the Traditional Custodians and offering and providing financial assistance for meeting expenses (as appropriate); and
- Providing information specifically designed to be easily understood, to reach all relevant people, and give a reasonable period of time for those people to make an informed assessment of the possible consequences of the proposed activity on them.

5.5.3 Identification of Relevant Persons

In order to undertake consultation, Woodside has developed a methodology for identifying relevant persons, in accordance with regulation 25(1) of the Environment Regulations (Section 5.2 and 5.3).

Specific to Woodside’s approach for identifying relevant Traditional Custodians, Woodside’s First Nations Communities Policy and consultation approach is guided by Traditional Custodians by directing consultations through their nominated representative corporation. This has been implemented by Woodside through consultation with a nominated representative corporation where that corporation has advised Woodside that it acts as the representative body for a Traditional Custodian group and has requested that Woodside engage with it as the representative body for that Traditional Custodian group.

Woodside asks nominated representative corporations (such as PBCs) and Native Title Representative Bodies to identify individuals that should be consulted, and enables individuals to self-identify in response to national and local advertising, social media and community engagement opportunities (Section 5.5.3.4). Where there is a nominated representative corporation for an area, unless directed by the nominated representative corporation, Woodside does not directly approach individuals for consultation, because this has the potential to undermine the role of the nominated representative corporations. Approaching individuals directly is a practice that is no longer considered acceptable because of divisions it has been shown to cause in communities. In addition to asking for the identification of individuals, Woodside also asks nominated representative corporations to distribute consultation information to whomever the nominated representative

corporations deem appropriate including members of the nominated representative corporations who are communal rights holders.

Having said this, as set out in further detail in Section 5.5.3.4 below, individuals are also given the opportunity to self-identify, consult and provide their own feedback on the proposed activity. When approached in this way, Woodside will engage individuals as relevant persons and will also (subject to any confidentiality or cultural restrictions) advise the nominated representative body of the consultation where it relates to cultural values. These methods of consultation are consistent with requirements for notification under the Native Title Act 1993 (Cth), such as under the future act provisions (section 29), which requires notification of the Native Title Representative Body, the PBC (or nominated representative) and notification through newspapers. The notification process has been selected as a respectful, practical and pragmatic analogue for consultation with First Nations peoples, rather than requiring members to be notified via a formal authorisation process which aims to seek, from members, authorisation of agreements and native title/compensation claims under the Native Title Act 1993 (Cth)²⁰.

In this consultation, Woodside requested nominated representative corporations to identify any potential individual relevant persons for consultation. Woodside requests nominated representative corporations to distribute consultation materials to their members, however, Woodside recognises that the process is voluntary and that it cannot compel nominated representative corporations (such as PBCs) to do so. Woodside also recognises that it would not be appropriate to seek to audit the nominated representative corporations for compliance with any member consultation request.

5.5.3.1 Opportunity to Self-identify and Identifying Other Individuals

Woodside requests nominated representative corporations and Native Title Representative Bodies to identify other individuals to consult with or individuals who may seek to self-identify for a proposed activity. Woodside also advertises broadly through Indigenous, national and local advertising, social media and community engagement opportunities to provide individuals with an opportunity to consult. Woodside does not directly approach individuals for consultation, as this undermines the role of the nominated representative corporations (Section 5.5.3.1). Woodside's approach to providing individual Traditional Custodians the opportunity to self-identify and consult for an Environment Plan is as follows:

- Woodside applies the principles of self-determination when consulting with Traditional Custodians by consulting through the Traditional Owners' authorised representative entities.
- Recognising the function of nominated representative corporations (such as PBCs) and Native Title Representative Bodies to represent communal interests and manage cultural values, Woodside requests that the information provided to representative entities is provided to their members but Woodside recognises the process is voluntary and Woodside cannot compel them to do so nor seek to audit the representative entities for compliance with any request.
- Representative entities cannot provide membership details to Woodside due to individual confidentiality requirements.
- Woodside requests advice as to who else Woodside should be consulting but recognises the process is voluntary and cannot compel nominated representative corporations to provide this information.
- Modern Indigenous engagement practises rely on the building and maintaining of respectful relationships. Most nominated representative corporations to date have requested the building of that relationship, where one is not already in place.

²⁰ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193, at [104]

- While Woodside has, in some cases, approached individual directors and elders outside of this process due to requirements imposed in Environment Plan consultation, this approach is considered inappropriate by modern Indigenous engagement standards, fundamentally undermining the authority of the authorised representative entity and can be detrimental to the relationship.

For this proposed activity, Woodside requested nominated representative corporations (including PBCs) and Native Title Representative Bodies to identify any potential individual relevant persons for consultation, and to distribute consultation materials to their member base. However, Woodside recognises the process is voluntary and it cannot compel them to do so nor seek to audit the representative entities for compliance with any request. Woodside has not been directed to engage individual Traditional Custodians by nominated representative corporations for this proposed activity. Woodside has nevertheless provided reasonable opportunity for individual Traditional Custodians to engage in consultation through appropriate and adapted consultation methods.

5.5.3.2 Sufficient Information

Woodside recognises that the information sufficient to allow a person or organisation to make an informed assessment of the possible consequences of the proposed activity on their functions, interests or activities may vary and also may depend on the degree to which a relevant person is potentially affected.

Woodside produces a Consultation Information Sheet for each Environment Plan which is provided to relevant persons and organisations to provide the opportunity for feedback on the activity (Section 5.4.1). In response to Traditional Custodians' feedback, Woodside has tailored effective consultation methods for its activities, specifically designed for Traditional Custodians, so that information is provided in a form that is readily accessible and appropriate. The targeted Consultation Summary Sheet developed and reviewed by Indigenous representatives so that content is appropriate to the intended recipients, is then provided to relevant Traditional Custodian groups. Phone calls are made to provide context to the consultation.

Where face to face consultation meetings are requested, Woodside coordinates engagement at the Traditional Custodians' location of choice (where practicable) and with their nominated attendees. Key project personnel, environmental and First Nations relations experts are typically present to enable effective communication and prompt response to questions. Materials for these sessions incorporate visual aids such as photos, maps and videos, and plain language suitable for people with a non-technical background.

During consultation Woodside provides relevant persons with additional information, as appropriate in response to requests. There is no requirement to provide relevant persons with all information or documents requested, and a titleholder will have provided sufficient information even where it has not provided all information or documents requested.

Woodside has sought to provide sufficient information to individual members of nominated representative corporations (such as PBCs) by providing information to representative bodies and requesting dissemination with members. However, Woodside recognises consultation is voluntary and it cannot compel them to do so nor would it be appropriate to seek to audit the representative entities for compliance with any request.

5.5.3.3 Reasonable Period for Consultation

Woodside seeks to consult in order to support preparation of its Environment Plan. Woodside recognises that what constitutes a reasonable period for consultation should be considered on a case-by-case basis, with reference to the nature, scale and complexity of the activity (Section 5.4.2).

5.5.3.4 Discharge of Regulation 25

Woodside's consideration and approach to discharging regulation 25 for relevant persons is discussed in Section 5.4.3. In addition to this, Woodside has considered the application of regulation 25 specifically to First Nations based on the Tipakalippa Appeal.

In relation to Traditional Custodian relevant persons (and all relevant persons), Woodside has discharged its duty under regulation 25. Woodside considers that consultation under regulation 25 is complete (Section 5.4.3).

5.6 Providing Feedback and Assessment of Merit of Objections or Claims

There are a number of ways in which feedback can be provided. Feedback can be provided through the Woodside feedback email or via the Woodside feedback toll free phone line as outlined in the Consultation Information Sheet and the Woodside website. Where appropriate, consultation may also be supported by phone calls or meetings. An environment plan feedback form is also available on Woodside's website enabling stakeholders to provide feedback on proposed activities, or to request additional information.

Woodside consults widely on its EPs and notes that feedback is received in various forms. Feedback that is considered inappropriate or that puts the environment, health, safety or wellbeing of Woodside employees or operations at risk will not be tolerated. Woodside respects people's rights to protest peacefully and lawfully but actions that put the environment, health, safety or wellbeing of Woodside employees or operations at risk go beyond those boundaries.

Woodside accepts feedback and engages in consultation in order to achieve the aims set out in Section 5.2. Woodside recognises that there are persons and organisations that take a view that Woodside's operations and/or growth projects should be stopped or at least delayed as far as possible. Whilst Woodside assesses the merits of objections or claims received, it acknowledges NOPSEMA's guidance in its brochure entitled Consultation on offshore petroleum environment plans information for the community, which states that relevant persons are free to respond on any matter and raise any concern, however this may not be able to be considered if it is outside the scope or purpose of the environment plan and approval process, for example, statements of fundamental objection to offshore petroleum activities or information containing personal threats or profanities. Under regulation 34(g), there is no requirement for a relevant person to agree or confirm that they have been adequately consulted.

Feedback from relevant persons is reviewed and an assessment of the merits is made of information provided as well as objections or claims about the adverse impact of each activity to which the EP relates. This might, for instance, be done through a review of data and literature and for relevance to the nature and scale of the activity outlined in the EP. Consistent with the aim of consultation in Section 5.2, Woodside will consider information received when reviewing and designing measures to put in place to minimise harm to relevant persons and where reasonable or practical to further manage impacts and risks to ALARP and acceptable levels.

Woodside considers feedback during consultation from relevant persons and other persons Woodside chose to contact (see Section 5.3.4). This information is summarised in Appendix F, Table 1 and Table 2 of the EP and includes a statement of Woodside's response, or proposed response, if any, to each objection and claim.

In accordance with regulation 26(8) of the Environment Regulations, sensitive information (if any) in an EP, and the full text of any response by a relevant person to consultation under regulation 25, must be contained in the sensitive information part of the plan and not anywhere else in the plan.

5.7 Ongoing Consultation

Consultation can continue to occur during the life of an EP, including after an EP has been accepted by NOPSEMA.

As per Woodside's ongoing consultation approach (refer to Section 7.10.3.1), feedback and comments received from relevant persons continue to be assessed and responded to, as required, throughout the life of an EP, including during its assessment and once accepted, in accordance with the intended outcome of consultation.

Should consultation feedback be received following the acceptance of an EP that identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate (see Section 7.2.3.1).

6. ENVIRONMENTAL IMPACT AND RISK ASSESSMENT, PERFORMANCE OUTCOMES, STANDARDS AND MEASUREMENT CRITERIA

6.1 Overview

This section presents the impact and risk analysis and evaluation, EPOs, EPSs and MC for the Petroleum Activities Program, using the methodology described in **Section 2**.

6.2 Impact and Risk Analysis and Evaluation

As required by regulation 21(5) and 21(6) of the Environment Regulations, the analysis and evaluation demonstrate that the identified risks and impacts associated with the Petroleum Activities Program are reduced to ALARP, are of an acceptable level and consider all operations of the activity, including potential emergency conditions. The impact assessment for planned activities has been based on the size of the Operational Area.

Impacts and risks identified during the ENVID (including Decision Type, current risk level, acceptability of risk and tools used to demonstrate acceptability and ALARP) have been divided into two broad categories:

- Planned activities (routine and non-routine) which have the potential for inherent environmental impacts;
- unplanned events (accidents, incidents or emergency situations) with an environmental consequence, termed risks.

Within these categories, impact and risk assessment groupings are based on environmental aspect²¹ such as emissions and physical presence. In all cases the worst-case risk was assumed.

The ENVID identified 13 sources of environmental impacts and risks. A summary of these is provided in **Table 6-1** and **Table 6-2**. The assigned risk ratings were determined with controls in place as described in **Section 2.6.3**.

The analysis and evaluation for the Petroleum Activities Program indicate that current environmental risks and impacts associated with the activity are reduced to ALARP and are of an acceptable level, as discussed further in **Sections 6.6** and **6.7**.

²¹ An environmental aspect is an element of the activity that can interact with the environment.

Table 6-1: Environmental impact and risk analysis summary table – planned activities

Aspect	EP Section	Source of Impact	Key Potential Environmental Impacts (Refer to relevant EP section for details)	Severity	Acceptability
Physical presence: disturbance to marine users	6.6.1	Presence of IMMR vessels and subsea infrastructure excluding or displacing other users from PSZ and operational area.	Interference with other sea users	1 – Minor	Tolerable
		Exclusion of other marine users from the PSZ			
		Interactions affecting cultural heritage values	Disturbance of cultural features or heritage values.		
Physical presence: disturbance to seabed	6.6.2	Presence of subsea infrastructure modifying marine habitats.	Minor changes/ impacts to seabed habitat in/ adjacent to infrastructure footprint.	1 – Minor	Tolerable
		Subsea IMMR activities resulting in damage to seabed	Damage to seabed. Disturbance of cultural features or heritage values.	1 – Minor	Tolerable
Routine acoustic emissions: generation of noise during routine operations	6.6.3	Noise generated within the Operational Area from: <ul style="list-style-type: none"> Wells, pipeline and subsea infrastructure. Vessels; and Subsea IMMR activities. 	Noise to marine environment causing interference to marine fauna.	1 – Minor	Tolerable
Routine and non-routine discharges: discharge of hydrocarbons and chemicals during subsea operations and activities	6.6.4	Discharges of control fluid	Localised, short-term decrease in water quality around subsea infrastructure within Operational Area.	1 – Minor	Tolerable
		Discharges of chemicals and hydrocarbons from subsea intervention works.	Potential slight short-term, localised decrease in water quality at release location during IMMR activities.	1 – Minor	Tolerable
		Discharge of chemicals remaining in subsea infrastructure and/or the use of chemicals for subsea IMMR activities.	Potential slight short-term, localised decrease in water quality at release location during IMMR activities.	1 – Minor	Tolerable
Routine and non-routine discharges: discharges of sewage, putrescible waste, grey water, bilge water, drain water, cooling water and brine	6.6.5	Routine discharges from IMMR vessel utility systems and drains (sewage, greywater, RO brine reject, cooling water, food waste, rainfall/deck washdown water, firewater deluge testing).	Minor localised nutrient or salinity increase, addition of surfactants (soaps and detergents) and chemicals to water column.	1 – Minor	Tolerable
Routine and non-routine atmospheric emissions and GHG Emissions	6.6.6	Emissions generated by IMMR activities and associated vessels.	Greenhouse gas (GHG) emissions and reduction in local air quality	1 – Minor	Tolerable
		Macedon emissions associated with onshore processing, third party transportation, regassification and combustion by end users.	GHG emissions.	1 – Minor	Tolerable
Routine light emissions: light emissions from vessels operations	6.6.7	Light emissions from IMMR vessels	Localised potential for disturbance of marine fauna.	1 – Minor	Tolerable

Table 6-2: Environmental impact and risk analysis summary table – unplanned events

Aspect	EP Section	Source of Risk	Key Potential Environmental Impacts (Refer to relevant EP section for details)	Severity	Likelihood	Risk Level	Acceptability
Unplanned Events (Accidents / Incidents)							
Unplanned hydrocarbon release: vessel collision	6.7.2	Loss of marine diesel from a subsea support vessel	Contamination / pollution of water column. Temporary and localised reduction in water quality with potential for acute toxic response over localised area. Medium-term impacts to offshore and nearshore areas Short-term interference with or displacement of other sea users.	3 – Substantial	Highly Unlikely	3	Tolerable
Unplanned hydrocarbon release: Loss of well containment	6.7.3	Release of hydrocarbons from loss of subsea well containment	Contamination / pollution of water column. Temporary and localised reduction in water quality with potential for acute toxic response over localised area. Contribution to greenhouse gas effect.	2 – Measurable	Highly Unlikely	0.9	Tolerable
Unplanned hydrocarbon release: subsea infrastructure	6.7.4	Release of hydrocarbons resulting from loss of containment form subsea infrastructure	Contamination / pollution of water column. Temporary and localised reduction in water quality with potential for acute toxic response over localised area.	2 – Measurable	Unlikely	3	Tolerable
Unplanned discharges: Hazardous and non-hazardous waste management	6.7.5	Loss of non-hazardous solid waste (rubbish) overboard.	Impacts to marine fauna.	2 – Measurable	Highly Unlikely	0.9	Tolerable
		Accidental leaks from storage and equipment, ROV, AUV hydraulic fluid	Localised contamination / pollution	1 – Minor	Possible	1	Tolerable
Physical presence: Seabed Disturbance from Dropped Objects	6.7.6	Dropped objects from vessels	Damage to seabed. Disturbance of cultural features or heritage values.	1 – Minor	Possible	1	Tolerable
Physical presence: Vessel collision with marine fauna	6.7.7	Physical presence of vessels.	Potential injury or death of marine fauna (single animal), including protected species.	2 – Measurable	Highly Unlikely	0.9	Tolerable
			Interference of vessel with migratory populations.				
Physical presence: Introduction of invasive marine species (IMS)	6.7.8	Invasive species in vessel ballast tanks or on vessels / submersible equipment.	Introduction of invasive marine species to area leading to major impact to native species.	4 – Serious	Highly Unlikely	0.9	Tolerable

6.2.1 Cumulative Impacts

Woodside has assessed the cumulative impacts of the PAP in relation to other relevant petroleum activities which could realistically result in overlapping temporal and spatial extents. Other facilities located in close proximity to the Operational Area consist of Pyrenees, which lies 6 km northwest of the Operational Area. However, given the sources of environmental risks and impacts from the PAP are concentrated around the Macedon field production system, and do not involve regular operations emissions and discharges, the potential for cumulative impacts is low. Cumulative impacts are discussed for sources of risk and impacts where such impacts were deemed to be credible.

6.3 Environmental Performance Outcomes, Standards and Measurement Criteria

Regulation 21(7) of the Environment Regulations requires that an EP includes EPOs, EPSs and MC that address legislative and other controls to manage the environmental risks and impacts of the activity to ALARP and Acceptable levels.

EPOs, EPSs and MC for the Petroleum Activities Program have been identified to allow Woodside's environmental performance to be measured and through the implementation of this EP, to determine whether the EPOs and EPSs have been met.

The EPOs, EPSs and MC specified are consistent with legislative requirements and Woodside's standards and procedures. They have been developed based on the legislation, codes and standards, good industry practices and professional judgment outlined in **Sections 2.6** and **Section 2.7**, as part of the acceptability and ALARP justification process.

The EPOs, EPSs and MC are presented throughout this section. A breach of these EPOs or EPSs constitutes a 'Recordable Incident' under the Environment Regulations (refer to **Section 7.10.4**).

6.4 Presentation

The analysis and evaluation (ALARP and acceptability), EPOs, EPSs and MC are presented in tabular form throughout this section, as shown in the sample below. Italicised text in this example table denotes the purpose of each part of the table, with reference to the relevant sections of the Regulations and/or this EP.

Demonstration of ALARP

ALARP Statement

Made on the basis of the environmental risk/impact assessment outcomes, use of the relevant tools appropriate to the Decision Type (**Section 2.6.1**) and a proportionality assessment. Regulation 34 (b).

Demonstration of Acceptability

Acceptability Statement

Made on the basis of applying the process described in **Section 2.7.2** and taking into account internal and external expectations, risk/impact to environmental thresholds and use of environment decision principles Regulation 34(c)

EPOs, EPSs and MC

<i>Environmental Performance Outcomes</i>	<i>Controls</i>	<i>Environmental Performance Standards</i>	<i>Measurement Criteria</i>
<p>EPO No. S: Specific performance that addresses the legislative and other controls that manage the activity, and against which performance by Woodside in protecting the environment will be measured. M: Performance against the outcome will be measured through implementation of the controls via the MC. A: Achievability/feasibility of the outcome demonstrated via discussion of feasibility of controls in ALARP demonstration. Controls are directly linked to the outcome. R: The outcome will be relevant to the source of risk/impact and the potentially impacted environmental value²³. T: The outcome will state the timeframe during which the outcome will apply or by which it will be achieved.</p>	<p>C No. Identified control adopted to ensure that the impacts and risks are continuously reduced to ALARP. Regulation 21(5) (c).</p>	<p>PS No. Statement of the performance required of a control measure. Regulation 21(7)(a).</p>	<p>MC No. MC for determining whether the outcomes and standards have been met. Regulation 21(7)(c).</p>

6.5 Environment Risk/Impacts not Deemed Credible

The ENVID identified a source of environmental risk / impact that was assessed as not being applicable (not credible) within or outside the Operational Area as a result of the Petroleum Activities Program, and therefore, which were determined to not form part of this EP.

- Physical presence of the subsea infrastructure, causing interference to tourism and recreation – there are such low levels of tourism and recreation in the Operational Area that this source is not worthy of further assessment. Access issues for fishers are included in the EP, with controls including consultation and mapping.

²³ Where impact/consequence descriptors are capitalised and presented within EPOs in **Section 5**; performance level corresponds with those aligned with the Woodside Risk Matrix (refer **Section 2.6.3**).

- Waste generation, causing increased landfill and associated pollution impacts – this indirect impact is a few steps removed from the Petroleum Activities Program and this source of environmental impact is not usually assessed in EPs.
- Diesel spill during bunkering is not included in the EP, as offshore bunkering was determined in the ENVID not to be required for the activity.

6.6 Planned Activities

6.6.1 Physical Presence: Disturbance to Marine Users

Context		
Field Layout and Description – Section 3.5 Subsea Support Vessels – Section 3.9 Subsea Inspection, Monitoring, Maintenance and Repair Activities – Section 3.6.5	Socio-cultural Environment – Section 4.9	Consultation – Appendix F

Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Presence of IMMR vessels and subsea infrastructure displacing other marine users from the Operational Area.							✓	A	1 -Minor	-	-	LCS GP	Tolerable	EPO 1
Exclusion of other marine users from the PSZ							✓	A	1 -Minor	-	-	LCS GP		
Interactions affecting cultural heritage values							✓	A	1 -Minor	-	-	LCS GP		EPO 2

Description of Source of Impact

During routine operational activities and start-up of new production well one or more subsea support vessels will be within the Operational Area. The presence of these vessels will be intermittent throughout the Petroleum Activities Program, with the duration and specific location these activities dependent on the activity being undertaken. Subsea support vessels undertaking the Petroleum Activities Program meet maritime requirements, including appropriate lighting and communication with other vessels.

During operations the subsea infrastructure may cause displacement of other marine users or require them to modify their activities. The Australian Hydrographic Office (AHO) has been notified of the location of subsea infrastructure for marking on nautical charts. Water depths of subsea infrastructure range between 60 and 180m.

As required, a 500m radius PSZ, measured from the centre of the four wells prohibits non-project vessels/other vessels (e.g., fishing and shipping) from entering unless authorised by Woodside. The total PSZ encompasses a total area of approximately 10.56km². Other marine users are permanently excluded from the PSZ regardless of whether any vessels are present in the Operational Area or not. This PSZ would be extended to include the additional new well and subsea flowline, if developed, as part of the proposed separate drilling and subsea installation EP.

Impact Assessment

Exclusion and Displacement of Other Users

Exclusion and/or displacement of other marine users may occur from:

- Subsea support vessels performing IMMR activities,
- Permanent presence of subsea infrastructure and wells, and
- Permanent presence of the PSZ.

Commercial Fishing: A number of commercial fisheries overlap the Operational Area and are detailed in **Section 4.9.2**. Commercial fishing vessels in the vicinity of the Operational Area are most likely to be licenced under the Pilbara demersal scalefish fishery and may employ several gear types (including trap and line). Potential impacts to commercial fishers depend on the use of the area by fishers, in addition to the temporal and spatial extent of the presence of vessels and facilities/infrastructure. Potential impacts to commercial fisheries include damage to fishing equipment and potential physical displacement from fishing grounds. The presence of subsea support vessels in the

operational area is considered to be localised displacement/avoidance by commercial fishing vessels within the immediate vicinity.

The overlap of the Operational Area with commercial fishing activity may temporarily exclude fishers from the area resulting in a potential displacement and potential loss of gear (particularly in relation to deployed traps). The potential impact to hazard of the commercial fisheries in the Operational Area is limited to the navigational hazard of subsea support vessels and localised displacement/avoidance by commercial fishing vessels within the immediate vicinity.

As such, the potential impact is considered to be localised with no lasting effect. The presence of subsea infrastructure could present a hazard to bottom trawl fisheries due to risk of equipment entanglement and subsequent equipment damage/loss. The Pilbara Demersal Scalefish Fishery employs several gear types, including trawling. The Operational Area overlap with the bottom portion of the fishery. No trawling effort is expected to occur in the Operational Area; the potential for trawling gear to be snagged on subsea infrastructure is considered to be remote.

Tourism and Recreation: Tourism and recreation activity in the Operational Area is expected to be infrequent, with recreational and charter fishing from vessels the only tourism and recreation activities identified as potentially occurring in the Operational Area. Consultation outcomes did not indicate any recreational fishing occurs within the Operational Area (**Section 5**). Any recreational and charter fishing from vessels is largely undertaken using lines and is therefore unlikely to interact with the subsea infrastructure.

Given the distance from boat launching facilities, lack of natural attractions (e.g., reefs or shoals) and the water depth of the Operational Area, very little recreational or charter fishing is expected to occur. As such, impacts to recreational and charter fishing are expected to be localised and of no lasting effect.

Shipping: Significant commercial shipping occurs in the region, with commercial shipping traffic comprising vessels such as:

- bulk carriers (e.g., mineral ore, salt etc.) from Port Hedland and Dampier;
- offtake tankers;
- support vessels for offshore oil and gas activities; and
- LNG carriers from Dampier, Barrow Island and Ashburton North.

To reduce the likelihood of interactions between commercial vessels and offshore facilities, AMSA have introduced a series of shipping fairways within which commercial vessels are advised to navigate. The fairways are not mandatory; however, AMSA strongly recommends commercial vessels remain within the fairway when transiting the region. The use of shipping fairways is considered to be good seafaring practice, with AUSREP data from AMSA indicating cargo ships and tankers routinely navigate within the established fairways.

The Operational Area is outside these declared and chartered shipping fairways.

The presence of subsea infrastructure and occasional subsea support vessels will not result in impacts to commercial shipping beyond a localised exclusion of shipping traffic from the PSZ and the temporary displacement of commercial shipping due to the presence of subsea intervention vessels undertaking activities in the Operational Area.

Oil and Gas: The nearest oil and gas facilities to Macedon are the Pyrenees and Ngujima-Yin FPSOs. Both are operated by Woodside. Based on operational experience in the region and the consultation with the oil and gas industry, any impacts from the Petroleum Activities Program will not affect oil and gas marine users.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)²⁴	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation, Codes and Standards				

²⁴ Qualitative measure

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)²⁴	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Vessels compliant with Marine Orders for safe vessel operations: <ul style="list-style-type: none"> • Marine Order 21 (Safety and emergency procedures) 2016 • Marine Order 27 (Safety of navigation and radio equipment) 2016 • Marine Orders 30 (Prevention of Collisions) 2016 	F: Yes CS: Minimal cost. Standard practice.	Marine Orders 21, 27 and 30 are required under Australian regulations; implementation is standard practice for commercial vessels as applicable to vessel size, type and class.	Control based on legislative requirement – must be adopted.	Yes C 1.1
Permanent infrastructure shown on AHO marine charts	F: Yes CS: Minimal cost. Standard practice.	Notification of AHO will enable them to update maritime charts, thereby reducing the likelihood of unplanned interactions with Macedon infrastructure.	Control based on legislative requirement – must be adopted.	Yes C 1.2
Good Practice				
Notify AHO of activities where vessels will be in the Operational Area, but outside of the PSZ >3 weeks, no less than four working weeks prior to scheduled activity commencement date.	F: Yes CS: Minimal cost. Standard practice.	Notification of AHO will enable them to issue a Maritime Safety Information Notification (MSIN) and Notice to Mariners (NTM) thereby reducing the likelihood of unplanned interactions with other vessels.	Benefits outweigh cost sacrifice.	Yes C 1.3
Notify AMSA Joint Rescue Coordination Centre (JRCC) of activities where vessels will be in the Operational Area, but outside of the PSZ >3 weeks, 24-48 hours before activities commence.	F: Yes CS: Minimal cost. Standard practice	Communicating the Petroleum Activities Program to other marine users ensures that are informed and aware should emergency response be required.	Benefits outweigh cost sacrifice.	Yes C 1.4
Professional Judgement – Eliminate				

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)²⁴	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Reduce the size of the PSZ.	F: No. Potential for increase in gear snagging on infrastructure, and process safety risks therefore no benefit from a reduction in risk. CS: Not assessed, control not feasible.	Not assessed, control not feasible.	Not assessed, control not feasible.	No
Professional Judgement – Substitute				
None identified.				
Professional Judgement – Engineered Solution				
Over-trawl protection on subsea infrastructure.	F: Yes. Over-trawl protection on subsea infrastructure could mitigate against the potential for commercial fishing trawl gear to damage infrastructure or result in gear loss. CS: Significant additional cost associated with the design and installation of trawl protection on subsea infrastructure.	No reduction in addition to adopted controls.	Disproportionate. The cost/sacrifice outweighs the benefits gained.	No
ALARP Statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the potential impacts of the physical presence of the subsea infrastructure and vessels on other users. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of Acceptability
Acceptability Statement: The impact assessment has determined that, given the adopted controls, the physical presence of the subsea infrastructure and the infrequent and brief presence of vessels represents a minor impact that is unlikely to result in any potential impact greater than an isolated temporary community disturbance to commercial fishing, cultural values, recreational fishing and/or shipping. The adopted controls are considered good oil-field practice/industry best practice and meet requirements of Australian Marine Orders, and expectations of AMSA and AHO provided in consultation with stakeholders. Further opportunities to reduce the impacts and risks have been investigated above. The potential impacts and risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of physical presence of the Macedon field production system and support vessels to a level that is broadly acceptable.

EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
EPO 1 Prevent adverse interactions between vessels/subsea infrastructure and other marine users during the Petroleum Activities Program.	C 1.1 Contract vessels compliant with Marine Orders for safe vessel operations: <ul style="list-style-type: none"> • Marine Orders 21 (Safety of navigation and emergency procedures) 2016; • Marine Order 27 (Safety of navigation and radio equipment) 2016 • Marine Orders 30 (Prevention of Collisions) 2016. 	PS 1.1 Vessels contracted whose practices comply with Marine Orders as applicable to vessel size, type and class.	MC 1.1.1 Marine verification records demonstrate compliance with standard maritime safety procedures (Marine Orders 21, 27 and 30).
	C 1.2 Permanent infrastructure shown on AHO maritime charts	PS 1.2 Woodside to notify AHO of location of permanent infrastructure	MC 1.2.1 Records demonstrate that permanent Macedon infrastructure is shown on AHO maritime charts
	C 1.3 Notify AHO of activities where vessels will be in the Operational Area, but outside of the Petroleum Safety Zone >3 weeks, no less than four working weeks prior to scheduled activity commencement date.	PS 1.3 Woodside to notify AHO of activities where vessels will be in the Operational Area, but outside of the Petroleum Safety Zone >3 weeks.	MC 1.3.1 Records demonstrate that AHO notifications complete.
	C 1.4 Notify AMSA Joint Rescue Coordination Centre (JRCC) of activities where vessels will be in the Operational Area, but outside of the Petroleum Safety Zone >3 weeks, 24-48 hours before activities commence.	PS 1.4 AMSA's JRCC is notified 24 to 48 hrs before mobilisation for activities in the Operational Area, but outside of the Petroleum Safety Zone >3 weeks, for awareness should emergency response be required.	MC 1.4.1 Records demonstrate a once-off notification provided to AMSA's JRCC within required timeframes, before mobilisation

6.6.2 Physical Presence: Disturbance to the Seabed

Context														
Field layout and description – Section 3.5 Subsea Support Vessels – Section 3.6.5 Subsea Inspection, Monitoring, Maintenance and Repair Activities – Section 3.6.5				Physical Environment – Section 4.4 Biological Environment – Section 4.5 Cultural Heritage – Section 4.9.1				Consultation – Appendix F						
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Presence of subsea infrastructure modifying marine habitats.		✓	✓		✓			A	1 -Minor	-	-	LCS GP PJ	Tolerable	EPO 3 EPO 4
Subsea IMMR activities resulting in damage to seabed.		✓	✓		✓			A	1 -Minor	-	-			
Description of Source of Impact														
<p>Seabed disturbance associated with the Petroleum Activities Program can occur during operations from activities such as, but not limited to:</p> <ul style="list-style-type: none"> physical presence of the subsea infrastructure scour, spans, and flowline movement inherent in design subsea IMMR activities (Section 3.6.5). <p>Specifically, the presence of subsea infrastructure may result in localised scouring around the infrastructure due to currents, subsurface waves, and seabed sediment fluid dynamics. Operational experience indicates scour around subsea infrastructure associated with the Petroleum Activities Program is localised with negligible impact to environmental receptors. Scour around subsea infrastructure may necessitate IMMR activities as part of integrity management practices.</p> <p>Flowline movement may occur as per design and within integrity margins along the flowline corridor. Normal flowline operational movement occurs due to factors such as flowline buckling, walking and varying metocean conditions. Lateral movement can occur within the flowline corridor. Management of flowline buckling and walking may necessitate IMMR activities.</p> <p>In order to maintain the integrity of subsea infrastructure, Woodside may be required to undertake routine subsea IMMR activities, as described in Section 3.6.5. Activities that constitute IMMR may impact upon the benthic environment in the vicinity of the activity. IMMR activities identified as impacting the benthic environment include (but are not limited to):</p> <ul style="list-style-type: none"> inspections – minor, localised sediment resuspension by ROV / AUV scale and marine growth removal – minor, localised resuspension of sediment; removal of marine biota from subsea infrastructure sediment relocation – minor, localised modification of benthic habitat and sediment resuspension 														

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- span rectification, pipeline protection and stabilisation – minor, localised modification of benthic habitat within footprint of area subject to rectification / protection / stabilisation;
- flying lead and umbilical replacement – minor, localised modification of benthic habitat in the vicinity of the jumper / umbilical
- jumper, spool repair / replacement – minor, localised modification of benthic habitat in the vicinity of the spool.
- temporary laying of tools on seabed (e.g. seabed baskets) – minor, localised modification of benthic habitat in the vicinity of the basket

The area of seabed predicted to be impacted varies depending on the nature and scale of the IMMR activity. Span rectification activities are IMMR activities with the greatest potential to modify benthic habitats, due to the alteration of the existing soft sediment habitat to hard substrate. Woodside’s operational experience on the NWS indicates these activities are typically restricted to relatively short (tens of metres) linear sections of pipeline, with areas of up to approximately 100 m² impacted.

Notably, the subsea infrastructure provides hard substrate habitat for benthic fauna along the seabed (e.g. pipelines, flowlines, manifolds etc.).

Impact Assessment

Benthic Habitats: Soft sediment benthic habitats are widely represented in the Operational Area and the NWS Province and Central Western Shelf Transition more broadly. Scour may result in localised impact to soft sediment benthic habitats, typically on the scales of metres to tens of metres. Subsequently, any impacts to benthos from scour around subsea infrastructure are expected to be localised, with no significant impacts to benthic habitats within the Operational Area.

As mentioned, flowline movement is limited to within design and integrity envelopes and may result in slight, localised impact to soft sediment benthic habitats, typically on the scales varying between metres to tens of metres laterally along the flowline corridors.

IMMR activities may result in potential impacts that may be categorised as:

- direct physical disturbance of benthic habitat; and
- indirect disturbance to benthic habitats from sedimentation.

A study of the benthic habitats along the pipeline route (BHP, 2011), confirmed the benthic habitat within the Operational Area is predominantly soft sediment with sparsely associated epifauna, and is broadly consistent with those represented throughout the NWS Province and Central Western Shelf Transition and wider NWSMR (**Section 4.5**). Benthic communities of the soft sediment seabed are characterised by burrowing infauna such as polychaetes, with biota such as sessile filter feeders occurring on areas of hard substrate (such as subsea infrastructure). The infauna communities are also representative of the NWS province; being of low abundance and dominated by polychaetes and crustaceans (RPS Environment and Planning 2012).

Direct seabed disturbance, including permanent modification of benthic communities, may result as a consequence of IMMR activities such as span rectification, pipeline protection and stabilisation. These activities will typically disturb a small area (typically < 100 m²) of soft sediment habitat, which is broadly represented in the Operational Area and wider NWS region. This habitat will be replaced by hard substrate (e.g. concrete mattresses, rocks etc.) which is generally uncommon in the middle and outer NWS region. Over time, this hard substrate is expected to be colonised by sessile benthic biota (e.g. sponges, gorgonians etc.), which may support higher biodiversity benthic fauna than soft sediment habitats. The estimated overall extent of such direct seabed disturbance is extremely small in relation to the extent of the soft sediment habitats which are broadly represented within the Operational Area and the wider NWS province.

KEFs

Ancient Coastline at 125 m depth contour: The Operational Area overlaps approximately 12.41 km² of the 16,190 km² Ancient Coastline KEF, which is approximately 0.07% of the KEF. The Operational Area represents a buffer around subsea infrastructure to facilitate vessel operations; the potential for seabed disturbance is much more localised (i.e., within 10’s of metres is the subsea infrastructure).

Benthic habitat surveys in the region (including within the Ancient Coastline at 125 m depth contour KEF) indicate that benthic habitats within the KEF are characterised by sand interspersed with areas of rubble and outcroppings of limestone pavement (AIMS 2014a, RPS 2011). Such habitats are widely distributed in the NWS Province. As noted in the Master Existing Environment, the geomorphic feature the KEF is associated with is represented worldwide and represents the coastline during a previous glacial period. Therefore, potential impacts to this regional-scale KEF are expected to be negligible.

The Ancient Coastline at 125 m depth contour is also associated with the ancient landscape on which there is potential for submerged cultural heritage (**Section 4.9.1**), this is discussed further below.

Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula: The Operational Area overlaps approximately 16.93 km² of the 5,392 km² canyons, which is approximately 0.3% of the KEF. The Operational Area represents a 500 m safety exclusion zone around each well and a 100 m buffer around subsea infrastructure to facilitate vessel operations; the potential for seabed disturbance is much more localised (i.e., within 10's of metres is the subsea infrastructure).

The canyons are identified as a KEF for their unique seabed features which lead to enhanced productivity in the region. The Operational Area is located away from the canyon system, and localised changes to seabed are not expected to impact upon the regional-scale oceanographic processes occurring within the KEF. Therefore, potential impacts to this KEF are expected to be negligible.

Artificial Habitat: The presence of the Macedon subsea infrastructure provides hard substrate for the settlement of marine organisms; the availability of hard substrate is often a limiting factor in benthic communities. As such, the presence of the subsea infrastructure has led to the establishment of ecological communities which would not have existed in this area otherwise. For example, pipeline infrastructure has been shown to support more diverse fish assemblages and benthic biota (McLean et al. 2017); these communities are relatively diverse compared to the open water and soft sediment habitats in the broader Operational Area.

The provision of artificial habitat associated with the subsea infrastructure will subsequently have either no adverse environmental impact or a low level of positive environmental impact through increasing biological diversity.

Cultural Values and Heritage

Woodside has conducted consultation with Traditional Custodian groups as described in **Appendix F**. Consultation with Traditional Custodians has not identified any Aboriginal cultural features or heritage values specifically associated with the Macedon pipeline. However, consultation with the Western Australian Museum has identified an opportunity to undertake an assessment of the prospectivity for archaeological sites along the entire pipeline route, including the portion in Commonwealth waters (and within the Operational Area). Therefore, prior to any future seabed disturbing activities occurring, Woodside will undertake a desktop survey to understand the likelihood of cultural heritage features being present in that area.

Water and Sediment Quality: Seabed disturbance may include localised and temporary decline in water quality due to an increase in suspended sediment concentrations and sediment deposition caused by IMMR activities. However, sediment loads are not expected to be significant due to the relatively small footprint for each activity (IMMR activities described above, and in **Section 3.10**). Each discrete IMMR activity near the seabed is likely to cause a single brief disturbance resulting in a transient plume of suspended sediment.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)²⁵	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation, Codes and Standards				
An ROV as-left survey is undertaken after relevant IMMR activities, to confirm all temporary equipment has been removed and to record location of any new subsea infrastructure that has been installed.	F: Yes CS: Minimal cost ROV as left survey is standard practice.	In accordance with OPGGS Act Section 572 (3) all temporary equipment is removed when no longer in use.	Legislative requirement.	Yes C 3.1
Good Practice				
All IMMR activities are restricted to within the Operational Area	F: Yes. CS: Minimal cost. Standard Practice.	By limiting the extent of IMMR activities, impacts to benthic habitats are reduced.	Benefits outweigh cost sacrifice.	Yes C 3.2

²⁵ Qualitative measure

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)²⁵	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Professional Judgement – Eliminate				
Vessels used for routine IMMR typically activities will not anchor within the Operational Area.	F: Yes. CS: Minimal. Subsea intervention vessels undertaking routine IMMR activities typically do not anchor.	By not anchoring, the potential impacts to benthic habitat are avoided.	Benefits outweigh cost sacrifice.	Yes C 3.3
Do not use ROV close to, or on, the seabed.	F: No. The use of ROVs (including work close to or occasionally landed on the seabed) is critical as the ROV is an integral part of IMMR activities. CS: Not assessed, control not feasible.	Not assessed, control not feasible.	Not assessed, control not feasible.	No
Professional Judgement – Substitute				
None identified.				
Professional Judgement – Engineered Solution				
Monitoring and maintenance of subsea infrastructure to manage scour and flowline movement to within integrity envelope.	F: Yes, subsea inspection maintenance and integrity monitoring is undertaken which inherently controls extent of scour and flowline movement. CS: Minimal cost. Standard practice	Monitoring and maintenance of subsea infrastructure confirms benthic seabed disturbance is limited to design flowline corridor.	Control is per current Subsea Integrity Management Plan	Yes C 3.4
Monitoring of seabed surrounding subsea infrastructure.	F: Yes. ROV footage collected as part of subsea integrity surveys could be reviewed to observe and detect changed in benthic habitats. CS: Costs associated with the review of collected footage.	Limited environmental benefit (information) gained from monitoring benthic habitats.	Given the low sensitivity of the environment surrounding the subsea infrastructure, any environmental benefit gained is outweighed by costs associated with implementing control.	No

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)²⁵	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Review of existing survey data by a suitably qualified maritime archaeologist prior to future seabed disturbing activities to inform areas for laydown and/or installation of equipment to avoid or where not possible, minimise physical impacts to cultural heritage areas or prospective areas.	F: Yes. CS: Minimal costs associated with review of data and avoidance or minimisation options.	Review of data by suitably qualified maritime archaeologist will inform potential exclusion or avoidance areas for seabed disturbance. Implementing this process will protect and minimise any physical impacts to underwater cultural heritage. Additionally, this process is not inconsistent with the draft guidelines for working in the near and offshore environment to protect Underwater Cultural Heritage (DCCEEW, 2023).	Benefits outweigh cost/ sacrifice.	Yes C 4.1
Unexpected finds of potential Underwater Cultural Heritage sites/ features, including First Nations UCH are managed in accordance with an Unexpected Finds Procedure set out in Section 7.6 .	F: Yes. CS: Cost of implementation	Allows management of Unexpected Finds in accordance with legislative requirements, (including Underwater Cultural Heritage Guidance for Offshore Developments and the DRAFT Guidelines to Protect Underwater Cultural Heritage under the UCH Act, expert advice and community expectations.	Benefits outweigh cost/ sacrifice.	Yes C 4.2
Report any potential underwater cultural heritage finds to relevant stakeholders and authorities in accordance with the Unexpected Finds Procedure, <i>Underwater Cultural Heritage Act 2018</i> and the ATSIHP Act	F: Yes. CS: Minimal costs associated with reporting process.	Meets legislative requirements and community expectations.	Benefit outweighs cost/ sacrifice.	Yes C 4.3

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Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)²⁵	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
ALARP Statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts of seabed disturbance from subsea activities. As no reasonable additional / alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of Acceptability
Acceptability Statement: The impact assessment has determined that, given the adopted controls, seabed disturbance from subsea activities represents a slight short-term impact to the seabed. Further opportunities to reduce the impacts have been investigated above. The adopted controls are considered good oil-field practice/industry best practice. The potential impacts are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts of subsea activities to a level that is broadly acceptable.

EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
EPO 3 Limit adverse impacts to benthic habitats to Minor (1) beyond the physical footprint of the subsea infrastructure during the Petroleum Activities Program.	C 3.1 An ROV survey is undertaken post maintenance or repair activity to confirm temporary equipment has been removed and to record location of new subsea infrastructure.	PS 3.1.1 Temporary equipment is removed.	MC 3.1.1 As left survey confirms temporary equipment is removed

EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
		<p>PS 3.1.2 Location of equipment, including those made redundant by the installation of a replacement, are recorded and updated in the inventory.</p>	<p>MC 3.1.2 Records confirm location of replacement equipment and remaining redundant equipment.</p>
	<p>C 3.2 All IMMR activities are restricted to within the designated pipeline corridor.</p>	<p>PS 3.2 All IMMR activities will be carried out within the Operational Area.</p>	<p>MC 3.2.1 Records demonstrate all IMMR activities occur only within the Operational Area.</p>
	<p>C 3.3 All vessels used for routine IMMR activities will typically use Dynamic Positioning.</p>	<p>PS 3.3 All vessels used for routine IMMR activities will typically use Dynamic Positioning.</p>	<p>MC 3.3.1 Records demonstrate DP used during routine IMMR activities</p>

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EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
	<p>C 3.4</p> <p>Monitoring and maintenance of subsea infrastructure to manage equipment integrity, scour and flowline movement within integrity envelope.</p>	<p>PS 3.4</p> <p>Implementation of the Subsea Facilities and Pipeline Integrity Management Plan.</p>	<p>MC 3.4.1</p> <p>Records demonstrate compliance with Subsea Facilities and Pipeline Integrity Management Plan.</p>
<p>EPO 4</p> <p>No adverse impact to Underwater Cultural Heritage²⁶ without a permit²⁷.</p>	<p>C 4.1</p> <p>Review of existing survey data by a suitably qualified maritime archaeologist prior to future seabed disturbing activities to inform areas for laydown and/or installation of equipment to avoid or where not possible, minimise physical impacts to cultural heritage areas or prospective areas.</p>	<p>PS 4.1</p> <p>Existing survey data reviewed by a suitably qualified maritime archaeologist to inform areas for laydown and/or installation of equipment.</p>	<p>MC 4.1</p> <p>Records demonstrate review of existing archaeological data completed prior to commencement of seabed disturbing activities.</p>
	<p>C 4.2</p> <p>Unexpected finds of potential Underwater Cultural Heritage sites / features, including First Nations UCH are managed in accordance with an Unexpected Finds Procedure set out in Section 7.6.</p>	<p>PS 4.2</p> <p>In the event that an Underwater Cultural Heritage site or feature is identified, implement an Unexpected Finds Procedure set out in Section 7.6.</p>	<p>MC 4.2.1</p> <p>No non-compliance with the Unexpected Finds Procedure.</p>
	<p>C 4.3</p> <p>Report any potential UCH finds to relevant stakeholders and authorities in accordance with the Unexpected Finds Procedure, Underwater Cultural Heritage Act 2018 and the ATSIHP Act.</p>	<p>PS 4.3.1</p> <p>Report any finds of potential UCH in accordance with the Unexpected Finds Procedure (Section 7.6) including to the Australasian Underwater Cultural Heritage Database.</p>	<p>MC 4.3.1</p> <p>Records of potential UCH finds reported to relevant authorities and stakeholders.</p>

26 Underwater Cultural Heritage is defined as any trace of human existence that has a cultural, historical or archaeological character and is located under water, in accordance with the UCH Act

27 Permit for Entry into a Protected Zone or to Impact Underwater Cultural Heritage would be acquired under the UCH Act.

6.6.3 Routine Acoustic Emissions: Generation of Noise during Routine Operations

Context														
Field layout and description – Section 3.5 Subsea Support Vessels – Section 3.9 Subsea Inspection, Monitoring, Maintenance and Repair Activities – Section 3.6.5							Protected Species – Section 4.6							
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Noise generated within the Operational Area from: <ul style="list-style-type: none"> operation of subsea infrastructure subsea support vessels IMMR activities 						✓		A	1 -Minor	-	-	LCS	Tolerable	EPO 5
Description of Source of Impact														
<p>Subsea Support Vessels</p> <p>The main source of underwater noise associated with the Macedon field production system are from subsea support vessels undertaking IMMR activities, with noise generated from the operation of engines, propellers, tools, etc. These noises contribute to and can exceed ambient noise levels, which range from around 90 dB re 1 µPa (root square mean sound pressure level [rms SPL]) under very calm, low wind conditions, to 120 dB re 1µPa (rms SPL) under windy conditions (McCauley, 2005).</p> <p>Subsea activities are typically undertaken from subsea support vessels with DP thrusters to allow manoeuvrability and avoid anchoring when undertaking works near subsea infrastructure. Subsea support vessels holding station (e.g., using DP systems; relying on thrusters and main propellers) are considered to be the main source of underwater noise generated during the Petroleum Activities Program. Noise generated from these activities is for discrete work packages and therefore will be intermittent and of short duration. McCauley (1998) measured underwater broadband noise equivalent to about 182 dB re 1 µPa at 1 m (rms SPL) from a subsea support vessel holding station in the Timor Sea; it is expected that similar noise levels will be generated by subsea support vessels used for this Petroleum Activities Program. Sound levels of 137 dB re 1 µPa at 405 m were recorded from a typical offshore support vessel holding station in strong currents (McCauley 1998).</p> <p>IMMR Activities</p> <p>Side scan sonar (SSS) and multi-beam echo sounders (MBES) may be required for IMMR to identify buckling, movement, scour and seabed features. If required, the activity is of a very short duration. Sources proposed have a frequency range from 12 to 700 kHz (MBES) and 75 to 900 kHz (SSS). Transponders may be used for ROV positioning, which have a frequency of 19 – 34 kHz and a source level of 187-196 dB.</p> <p>In general, MBES and SSS generate a higher frequency acoustic signal, which attenuates more rapidly underwater compared to lower frequencies. Additionally, sound sources generated closer to the seabed have a lower received noise level in the horizontal direction due to seafloor scattering and absorption.</p> <p>Positioning Equipment</p> <p>An array of long baseline (LBL) and/or ultra-short baseline (USBL) transponders may be used for positioning during IMMR activities. Transponders typically emit pulses of medium frequency sound, generally within the range 21 to 31 kHz. The estimated sound pressure level at source ranges from 180 to 206 dB re 1 µPa at 1 m (Jiménez-Arranz et al. 2017).</p>														

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Wellhead, Pipelines and Subsea infrastructure

The noise produced by an operational wellhead was measured by McCauley (2002). The broadband noise level was very low, 113 dB re 1 μ Pa, which is only marginally above rough sea condition ambient noise. For a number of nearby wellheads, the sources would have to be in very close proximity (< 50 m apart) before their signals summed to increase the total noise field (with two adjacent sources only increasing the total noise field by three dB). Hence for multiple wellheads in an area, the broadband noise level in the vicinity of the wellheads would be expected to be of the order of 113 dB re 1 μ Pa and this would drop very quickly to ambient conditions on moving away from the wellhead, falling to background levels within < 200 m from the wellhead.

Based on the measurements of wellhead noise discussed in McCauley (2002), which included flow noise in pipelines, noise produced along a pipeline may be expected to be similar to that described for wellheads, with the radiated noise field falling to ambient levels within a hundred meters of the pipeline.

Woodside has undertaken acoustic measurements on the noise generated by the operation of choke valves associated with the Angel facility (JASCO, 2015) similar to the design employed across Macedon subsea valves. These measurements indicated choke valve noise is continuous, and the frequency and intensity of noise emitted is dependent on the rate of production from the well. Noise intensity at low production rates (16% and 30% choke positions) were approximately 154-155 dB re 1 μ Pa, with higher production rates (85% and 74% choke positions) resulting in lower noise levels (141-144 dB re 1 μ Pa). Noise from choke valve operation was broadband in nature, with the majority of noise energy concentrated above 1 kHz. Noise from choke valve operation was considered minor compared to noise generated by vessels using thrusters in the area.

Given the low levels of noise emitted by subsea infrastructure such as wellheads, choke valves and flowlines, no impacts to marine fauna from these noise sources are expected. Measurements of noise generated by choke valves indicated it is relatively high frequency (>1 kHz), and hence will attenuate over relatively short distances in the water column; significant impacts to marine fauna are not considered credible and therefore not considered further in the impact assessment.

Impact Assessment**Receptors**

The Operational Area is located in waters approximately 60 m (at inshore Commonwealth waters boundary) to 180 m deep. The fauna associated with this area is predominantly pelagic species of fish, with migratory species such as turtles, whale sharks and cetaceans potentially present in the area seasonally. Noise interference is a key threat to a number of migratory and threatened cetaceans and marine turtles identified as occurring within the Operational Area (**Section 4.6**).

The Operational Area overlaps flatback turtles (internesting), whale sharks (foraging) and wedge-tailed shearwaters (breeding) BIAs.

Flatback turtles nest in the region between October and March, however, given water depths and distance from shore, the area does not constitute foraging or important internesting habitat. Satellite tracking of flatback turtle nesting populations (Barrow Island and mainland sites) indicates this species travels to the east of Barrow Island between nesting events, within WA mainland coastal waters less than 70 m deep (Chevron Australia Pty Ltd, 2015).

Whale sharks are most likely to be present between March and November and wedge-tailed shearwaters between August and April. Due to the lack of roosting or nesting habitat for wedge-tailed shearwaters in proximity to the Operational Area, only a low density is expected even during peak nesting periods.

The Operational Area overlaps the migration BIA for the humpback whale therefore individuals may be present during the northbound and southbound migrations, with satellite tracks indicating that individuals are more likely during the northbound migration (**Figure 4-8**).

Note some demersal fish are also likely to be associated with subsea infrastructure such as pipelines (McLean et al. 2017).

Potential Impacts of NoiseImpacts to Species

Elevated underwater noise can affect marine fauna, including cetaceans, fish, turtles, sharks and rays, in three main ways (Richardson et al., 1995; Simmonds et al. 2004):

1. by causing direct physical effects on hearing or other organs. Hearing loss may be temporary (temporary threshold shift (TTS) referred to as auditory fatigue), or permanent (permanent threshold shift [PTS]);
2. by masking or interfering with other biologically important sounds (including vocal communication, echolocation, signals and sounds produced by predators or prey); and
3. through disturbance leading to behavioural changes or displacement from important areas (e.g. BIAs). The occurrence and intensity of disturbance is highly variable and depends on a range of factors relating to the animal and situation.

Sound Propagation Calculations

Increasing the distance from the noise source usually results in the level of noise reducing, due primarily to the spreading of the sound energy with distance. The way that the noise spreads (geometrical divergence) will depend upon several factors such as water column depth, pressure, temperature gradients, and salinity, as well as surface and bottom conditions.

Cetaceans

Species Sensitivity and Exposure Thresholds

Marine mammals and especially cetaceans rely on sound for important life functions including individual recognition, socialising, detecting predators and prey, navigation and reproduction (Weilgart. 2007; Erbe et al. 2015; Erbe et al. 2018). Underwater noise can affect marine mammals in various ways including interfering with communication (masking), behavioural changes, a shift in the hearing threshold (PTS and TTS), physical damage and stress (Erbe, 2012; Rolland et al. 2012).

The thresholds that could result in behavioural response for cetaceans is expected to be 120 dB re 1 µPa (SPL) for continuous noise sources, and 160 dB re 1 µPa (SPL) for impulsive noise sources (Table 6-3). These thresholds have been adopted by the United States National Oceanic and Atmospheric Administration (NOAA) (National Marine Fisheries Service [NMFS], 2014, 2018; Southall et al. 2019).

Table 6-3: PTS, TTS and behavioural response onset thresholds for LF and HF cetaceans

Hearing group	PTS onset thresholds (received level)		TTS onset thresholds (received level)		Behavioural response	
	Impulsive	Non-impulsive	Impulsive	Non-impulsive	Impulsive	Non-impulsive
Low-frequency cetaceans	183 dB re 1 µPa ² s (SEL weighted) 219 dB re 1 µPa (peak SPL)	199 dB re 1 µPa ² s (SEL weighted)	168 dB re 1 µPa ² s (SEL weighted) 213 dB re 1 µPa (peak SPL)	179 dB re 1 µPa ² s (SEL weighted)	160 dB re 1 µPa (SPL)	120 dB re 1 µPa (SPL)
High-frequency cetaceans	185 dB re 1 µPa ² s (SEL weighted) 230 dB re 1 µPa (peak SPL)	198 dB re 1 µPa ² s (SEL weighted)	170 dB re 1 µPa ² s (SEL weighted) 224 dB re 1 µPa (peak SPL)	178 dB re 1 µPa ² s (SEL weighted)		

Source: NMFS (2014, 2018); Southall et al. (2019); NOAA (2019).

Marine Turtles

Species Sensitivity and Exposure Thresholds

There is a paucity of data regarding responses of marine turtles to underwater noise. However, turtles have been shown to respond to low frequency sound, with indications that they have the highest hearing sensitivity in the frequency range 100–700 Hz (Bartol and Musick. 2003). Lenhardt (1994) observed marine turtles avoiding low-frequency sound.

The Recovery Plan for Marine Turtles (Commonwealth of Australia, 2017) notes there is limited information available on the impact of noise on marine turtles and that the impact of noise on turtle stocks may vary depending on whether exposure is short (acute) or long-term (chronic). Turtles have been shown to respond to low frequency sound, with indications that they have the highest hearing sensitivity in the frequency range 100–700 Hz (Bartol and Musick, 2003).

A Popper et al. (2014) review assessed thresholds for marine turtles and found qualitative results that TTS was only moderate for near field exposure, and low for both intermediate and far field exposure (Popper et al. 2014). McCauley et al. (2000) noted that sea turtles exhibit increased swimming activity at 166 dB re 1 µPa. No quantitative (numerical) thresholds have been developed for impacts of continuous sources (e.g. vessel noise) on marine turtles.

Subsea Support Vessel Noise Impacts

Vessels holding station are the predominant noise source related to the Petroleum Activities Program. McCauley (1998) measured underwater broadband noise equivalent to about 182 dB re 1 µPa SPL (rms) at 1 m from a support vessel holding station in the Timor Sea. Similar noise levels are expected to be generated by subsea support vessels used for the Petroleum Activities Program

Potential behavioural response impacts may include:

- Cetaceans: Potential behavioural disturbance from the DP vessel for cetaceans at intermediate range, likelihood of PTS or TTS is not considered credible, given individuals would need to be directly next to the

noise source for prolonged duration and vessels are not point sources (i.e. sound is distributed from multiple locations of the vessel over a large area).

- Fish: Potential masking and behavioural disturbance at near and intermediate range; likelihood of PTS or TTS is considered not to be credible given fish would move away from the source. Site attached fish (e.g. some species of demersal fish) are not expected to be exposed to underwater noise above impact thresholds given water depths in the area where these fish may be more prevalent (i.e. the Ancient Coastline at 125 m KEF).
- Marine turtles: Potential masking and behavioural disturbance at intermediate and far range, likelihood of PTS or TTS is considered not to be credible given turtles would need to be directly next to the noise source.

Fauna such as cetaceans, fish, and turtles are capable of moving away from potential noise sources, and there are no constraints to the movement of these fauna within the Operational Area. Typical noise levels generated by a subsea support vessel using DP will not exceed physical injury levels for cetaceans (except at extremely close ranges to the source).

Considering the overlap of the whale shark foraging BIAs with the Operational Area, it is likely there may be increased numbers of individuals of during migratory periods. Currently, there are no quantitative sound exposure thresholds relevant to whale sharks. It is expected that the potential effects of noise on whale sharks will be the same as for other pelagic fish species, resulting in minor and temporary behavioural change such as avoidance.

Despite the overlap with the flatback turtle internesting BIA only transient individuals of flatback turtles are expected, even during internesting periods. Currently, there are no quantitative sound exposure thresholds for behavioural responses in marine turtles resulting from continuous noise sources. As outlined above, marine turtles are not expected to be in the area in high numbers even during nesting and internesting periods.

Therefore, impacts to marine turtles and whale sharks from subsea support vessels are expected to be negligible or of no lasting effect.

Given the temporary nature of the activity, minimal acoustic footprint, and the open-water location (no barrier effect), noise impacts are not likely to have any adverse effect on threatened species or BIAs.

IMMR Activities Noise Impacts

JASCO (2013) conducted noise modelling for five low energy survey instruments off the coast of California. One of these instrument types are comparable to MBES. All equipment types were modelled in the sandy bottom environment, similar to that of the Operational Area. Although the bathymetry, salinity, water temperature and sub-seafloor sediment type may differ, given the similarities in equipment type and seafloor habitat, the modelling is considered comparable for the nature and scale of the low energy IMMR survey equipment.

The modelling reported distances to specific threshold levels for different types of marine mammals. Where applicable M-weighted R_{max} (the distance to the farthest occurrence of the threshold level) estimates were used. Since receptors identified in **Section 4.6** include a greater range of species, unweighted R_{max} , was used for species where M-weighted estimates were not appropriate, which is considered conservative. The distance at which the 160 dB re 1 μ Pa (rms SPL) behavioural threshold was reached was 290 m.

Potential behavioural response impacts may include:

- Cetaceans: Potential behavioural disturbance from the IMMR activities for cetaceans, likelihood of PTS or TTS is not considered credible, given individuals would need to be directly next to the noise source for prolonged duration and vessels are not point sources (i.e. sound is distributed from multiple locations of the vessel over a large area).
- Fish: Potential masking and behavioural disturbance at near and intermediate range; likelihood of PTS or TTS is considered not to be credible given fish would move away from the source and the IMMR activities noise sources are all higher in frequency (12 - 700 kHz) therefore they are outside the range of fish hearing (2-4 kHz). Site attached fish (e.g. some species of demersal fish) are not expected to be exposed to underwater noise above impact thresholds given water depths in the area where these fish may be more prevalent (i.e. the Ancient Coastline at 125 m KEF).
- Marine turtles: Likelihood of potential masking and behavioural disturbance or PTS or TTS is considered not to be credible given the source frequency of proposed equipment (12 -700 kHz) is well outside the known hearing frequency range of turtles-(0.1 - 0.7 khz). frequency of the noise source.

Positioning Equipment Noise Impacts

Transponders used for positioning during IMMR activities have the potential to cause some temporary behavioural disturbance to marine fauna; however, noise levels are generally well below injury thresholds. Based on empirical spreading loss estimate measured by Warner et al (2012), received levels from USBL transponders are expected to exceed the cetacean behavioural response threshold for impulsive sources out to about 42 m.

Transmissions are not continuous but consist of short 'chirps' with a duration that ranges from three to 40 milliseconds. Transponders will not emit any sound when on standby. When required for general positioning, they emit one chirp every five seconds (estimated to be required for 4 hrs at a time). When required for precise positioning, they emit one chirp every second (estimated to be required for 2 hrs at a time). Due to the short duration chirps, the

temporary and intermittent use and the mid frequencies used by positioning equipment, the acoustic noise from the transponders is unlikely to have a substantive effect on the behavioural patterns of marine fauna.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)²⁸	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation, Codes and Standards				
Vessels operate in accordance with EPBC Regulations 2000 – Part 8 Division 8.1 Interacting with cetaceans, including the following measures ²⁹ : <ul style="list-style-type: none"> • Vessels will not travel greater than 6 knots within 300 m of a cetacean or turtle (caution zone). • Vessels will not approach closer than 50 m for a dolphin or turtle and/or 100 m for a whale (with the exception of animals bow riding). • If the cetacean or turtle shows signs of being disturbed, support vessels will immediately withdraw from the caution zone at a constant speed of less than 6 knots. • Vessels will not travel greater than 8 knots within 250 m of a whale shark and not allow the vessel to approach closer than 30 m of a whale shark. 	F: Yes. CS: Minimal cost. Standard practice.	Implementation of these controls will reduce the exposure of a cetacean, whale shark or turtle to noise from the vessel.	Controls based on legislative requirements – must be adopted.	Yes C 5.1

²⁸ Qualitative measure

²⁹ For safety reasons, the distance requirements below are not applied for a vessel holding station or with limited manoeuvrability e.g. anchor handling, loading, back-loading, bunkering, close standby cover for overside working and emergency situations.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)²⁸	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Good Practice				
Vary the timing of the Petroleum Activities Program to avoid migration periods.	F: No. The Petroleum Activities Program occurs continuously over a 5-year period, modifying the timing of the Petroleum Activities Program is not feasible. CS: Not considered, control not feasible.	Not considered, control not feasible.	Not considered, control not feasible.	No
Implementing a shutdown zone around SSS and MBES for the following fauna: <ul style="list-style-type: none"> whales marine turtles whale sharks. 	F: Yes. However, as equipment is underwater, effective implementation of zones is challenging from topside observation. CS: Moderate. Requires the provision of a dedicated suitably trained crew member to undertake Marine Fauna Observations.	Limited. The areas of disturbance for these devices are limited to within about 290 m of the source. In addition, it is noted that for MBES, the frequency range of these devices are outside the estimated frequency hearing range of identified protected species (whales, turtles and whale sharks).	The source levels and frequency range of these devices are outside the estimated frequency hearing range of identified protected species (whales, turtles and whale sharks), so costs are considered disproportionate to benefits.	No
Have a dedicated experienced and trained Marine Fauna Observer (MFO) onboard vessels to undertake marine fauna observations.	F: Yes, however additional cost for dedicated and experienced MFO to be present during IMMR. CS: Moderate, requires the provision of a dedicated experienced MFO to undertake Marine Fauna Observations.	Use of an MFO may detect fauna in the area, however control provides limited benefit when managing impacts associated with vessel noise alone.	Given limited benefit associated with the management of vessel noise impacts and costs associated with control implementation an experienced MFO is not considered necessary.	No

EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
<p>EPO 5 Limit adverse impacts on fauna from noise emissions during the Petroleum Activities Program.</p>	<p>C 5.1 Vessels operate in accordance with EPBC Regulations 2000 – Part 8 Division 8.1 Interacting with cetaceans, which include the following measures³⁰:</p> <ul style="list-style-type: none"> • Vessels will not travel greater than 6 knots within 300 m of a cetacean or turtle (caution zone); • Vessels will not approach closer than 50 m for a dolphin or turtle and/or 100 m for a whale (with the exception of animals bow riding); • If the cetacean or turtle shows signs of being disturbed, activity support vessels will immediately withdraw from the caution zone at a constant speed of less than 6 knots; and • Vessels will not travel greater than 8 knots within 250 m of a whale shark and not allow the vessel to approach closer than 30 m of a whale shark. 	<p>PS 5.1 Vessels will comply with the EPBC Regulations 2000 – Part 8 Division 8.1 (Regulation 8.05 and 8.06) Interacting with cetaceans to reduce noise exposure.</p>	<p>MC 5.1.1 Records demonstrate no breaches with EPBC Regulations 2000 – Part 8 Division 8.1 Interacting with cetaceans and Woodside Marine Charterers Instructions.</p>

³⁰ For safety reasons, the specified distances requirements are not applied for a vessel holding station or with limited manoeuvrability (e.g. loading, back-loading, close standby cover for overside working and emergency situations).

6.6.4 Routine and Non-routine Discharges: Discharge of Hydrocarbons and Chemicals During Subsea Operations and Activities

Context														
Field Layout and Description – Section 3.5 Subsea Support Vessels – Section 3.9 Subsea Inspection, Monitoring, Maintenance and Repair Activities – Section 3.6.5				Physical Environment – Section 4.4 Biological Environment – Section 4.5				Consultation – Appendix F						
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Discharge of subsea control fluids.		✓	✓		✓			A	1 -Minor	-	-	GP	Tolerable	EPO 6
Discharges of chemicals and hydrocarbons from subsea intervention works.		✓	✓		✓			A	1 -Minor	-	-			
Discharge of chemicals remaining in subsea infrastructure and/or the use of chemicals for subsea IMMR activities.		✓	✓		✓			A	1 -Minor	-	-			
Description of Source of Impact														
<p>Hydrocarbons and chemicals may be discharged because of planned routine and non-routine operations and activities, as follows:</p> <ul style="list-style-type: none"> Operational and new production well start up discharges, including, but not limited to: <ul style="list-style-type: none"> discharge of subsea control fluids – subsea control fluid is used to control valves remotely from the facility. It is an open-loop system, designed to release control fluid from the control system during valve operations (e.g., up to about 1 L per valve actuation). potential non-routine hydraulic fluid discharge associated with umbilical system losses/weepers. discharge of minor fugitive hydrocarbon from wells and subsea equipment (e.g., weepers/seeps/bubbles) discharge of chemicals introduced into subsea infrastructure and the production stream, either as process or non-process chemicals (e.g., corrosion inhibitors, biocides, scale inhibitors). Chemicals flow through the production process, with residual chemicals collected at the onshore gas plant. 														

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- IMMR activities including but not limited to:
 - Discharge of residual hydrocarbons and control fluids in subsea lines and equipment and small gas releases associated with isolation testing and breaking containment.
 - discharge of residual chemicals in subsea lines and equipment, or the use of chemicals, during activities such as flushing. These chemicals are used and discharged intermittently in small volumes. Small quantities of chemicals may remain in the flushed infrastructure, which may be released to the environment after disconnection.
 - Discharge from subsea cleaning activities such as acid used for scale and marine growth removal, spool cleaning.
 - Potential non-routine hydrocarbon release associated with pigging operations losses/weeps

Impact Assessment

There is potential for localised water column pollution and adverse effects on marine biota as a result of planned routine and non-routine hydrocarbon and chemical discharges. However, planned discharges of hydrocarbons and chemicals are minor and are minimised as far as practicable via flushing of the lines back to the facility (when feasible). Discharge locations could be anywhere within the subsea infrastructure but most likely at the subsea valves (subsea control fluid) or at disconnection points in subsea infrastructure.

Water Quality

Subsea control fluids are discharged at relatively small volumes during valve actuations and IMMR activities at or near the seabed. On release the subsea control fluids are expected to mix rapidly and dilute in the water column. The small quantities of hydrocarbons (liquid and gas) that may be released during operational and IMMR activities (including pigging) that break containment of isolated subsea infrastructure will be buoyant and float upwards towards the surface. Given the water depth, pressure, and the small volumes released, these hydrocarbons are not expected to reach the sea surface. Rather, the release will disperse and dissolve within the water column. Chemicals may be discharged intermittently and in small volumes.

There is potential for slight, localised decrease in water quality at planned discharge locations and potential impacts on marine biota. Within the mixing zone impacts to pelagic fish are expected to be limited to avoidance of the localised area of the discharge and short-term, localised decline in planktonic organisms in the immediate vicinity of the discharge plume.

Sediment Quality

Accumulation of contaminants in sediments depends primarily on the volume/concentration of particulates in discharges or constituents that adsorb onto seawater particulates, the area over which those particulates could settle onto the seabed (dominated by current speeds and water depths), and the resuspension, bioturbation and microbial decay of those particulates in the water column and on the seabed. Valve actuation discharges are frequent but low in volume (typically <6 L). The subsea control fluid used in the open loop system (aqua glycol solution) is water-based and non-toxic and does not have a potential to bioaccumulate. Once released the control fluid is expected to mix rapidly in the water column and become diluted, accumulation in sediments is not considered likely.

Given the low frequency and volumes of hydrocarbon releases and its buoyancy, accumulation in sediments is not considered likely.

Ecosystem / Habitats

Sediments in the Operational Area are expected to be broadly consistent with those in the NWS Province such as sparsely populated silty/sandy sediment habitats (as described in **Section 4.5**), with filter feeders such as sponges, ascidians, soft corals and gorgonians associated with areas of hard substrate. The only areas of hard substrate expected in the vicinity are artificial habitat associated with subsea infrastructure. Impacts to ecosystems are not expected due to the localised nature of discharge plumes and potential for sediment quality impacts. Given the nature and scale of planned discharges, potential impacts are considered to be localised and negligible.

Values and Sensitivities

KEFs

The Operational Area overlaps with two KEFs: Ancient Coastline at 125 m Depth Contour, and Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula. No significant escarpments, species of conservation significance, emergent features or areas of high biological productivity characteristically associated with these KEFs have been observed in the Operational Area (**Section 4.4**). Therefore, potential impacts to this regional-scale KEF are expected to be negligible.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)³¹	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation, Codes and Standards				
None identified.				
Good Practice				
Implement Woodside's Chemical Selection and Assessment Environment Guideline	F: Yes. Routinely implemented to the chemical selection process for Woodside facilities. CS: Minimal cost. Standard practice.	Selection and assessment of chemicals in accordance with the Woodside process, reduces environmental impacts associated with planned chemical discharge.	Benefits outweigh cost/sacrifice.	Yes C 6.1
Subsea infrastructure flushed and appropriately isolated where practicable during IMMR disconnection activities to reduce volume / concentration of hydrocarbons released to the environment.	F: Yes. The subsea infrastructure has been designed such that much of the hydrocarbon-containing elements can be flushed back to the onshore facility. CS: Minor. Flushing may prolong the cessation of production required for subsea IMMR activities, leading to reduced production.	Flushing reduces the volumes/concentration of hydrocarbons released to the environment.	Benefit outweighs cost sacrifice	Yes C 6.2
Implement facility isolation procedure so that proven isolation is in place for relevant IMMR activities.	F: Yes CS Minimal cost. Standard practice	Maintaining and testing the ability to isolate wells and pipelines will ensure barriers are in place and verified limiting the volume of hydrocarbon released	Control is already in place	Yes C 6.3
Monitor subsea control fluid use and investigate material discrepancies to support identification of potential integrity failures.	F: Yes. The use of control fluid is monitored to maintain adequate fluid in the system. CS: Minimal cost.	Limits the volumes of subsea control fluid discharge to the marine environment	Benefit outweighs cost sacrifice	Yes C 6.4
Professional Judgement – Eliminate				
None identified.				

³¹ Qualitative measure

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)³¹	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Professional Judgement – Substitute				
Install closed-loop subsea valve control system.	F: Yes. Closed-loop subsea valve control systems can be installed, however, they may not be able to be retro-fitted and may not perform as quickly / reliably as open-loop systems. CS: Significant. The design, procurement and retrofitting of a closed-loop valve control system would result in considerable offshore logistics, exposure to safety hazards during installation, and significant financial burden through direct costs and lost production.	The potential consequence of the discharges is ranked as incidental, based on the volume, frequency, location, and types of fluid discharged in an open-ocean environment, and avoiding the discharges would provide little or no environmental benefit.	When considering the negligible effect from the release of control fluids, the risk and costs of retrofitting a closed-loop subsea valve control system is considered to be grossly disproportionate to the environmental benefit.	No
Professional Judgement – Engineered Solution				
Route hydrocarbons to vessel during disconnection of subsea infrastructure.	F: Yes. However, to do so would introduce significant safety risks to the vessel crew (fire, explosion, asphyxiation). CS: Significant. Equipping and training crew onboard subsea intervention vessels to safely route hydrocarbons to the vessel would result in significant additional costs (in addition to the increased safety risk identified above).	Small environmental benefit from preventing low concentration hydrocarbon discharge.	Given the increased safety risk and the very low environmental impact from hydrocarbon releases during subsea IMMR activities, the cost of routing hydrocarbons to the vessel is grossly disproportionate to the environmental benefit	No

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Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)³¹	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Decrease frequency of valve actuation.	F: Yes. Decreasing the frequency of valve actuations may extend the functionality and reliability of valves, potentially leading to improved operability. CS: Moderate cost due to potential constraints on operations.	The potential consequence of the discharges is ranked as incidental, based on the volume, frequency, location, and types of fluid discharged in an open-ocean environment, and reducing the number of discharges would provide little or no environmental benefit.	All valves are used as needed on the basis that they are designed for life of field. Decreasing the frequency of valve actuations could constrain operations which is grossly disproportionate to the environmental benefit.	No
<p>ALARP Statement:</p> <p>On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts of planned routine and non-routine hydrocarbon and chemical discharges. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.</p>				

Demonstration of Acceptability
<p>Acceptability Statement:</p> <p>The impact assessment has determined that, given the adopted controls, planned routine and non-routine hydrocarbon and chemical discharges represents a localised impact that is unlikely to result in a lasting potential impact on water quality, marine sediment or ecosystem habitat. Further opportunities to reduce the impacts have been investigated above. Fluid discharges from the subsea system during operations and IMMR activities are routine in the oil and gas industry. The adopted controls are considered good oil-field practice/industry best practice. The potential impacts are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts of planned routine and non-routine hydrocarbon and chemical discharges to a level that is broadly acceptable.</p>

EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
<p>EPO 6 Limit adverse water quality impacts to Minor (1) effects from chemicals and hydrocarbons used in subsea IMMR activities during the Petroleum Activities Program.</p>	<p>C 6.1 Implement Woodside's Chemical Selection and Assessment Environment Guideline</p>	<p>PS 6.1 All operational chemicals intended or likely to be discharged to the marine environment will be assessed and approved prior to use in accordance with the Chemical Selection and Assessment Environment Guideline) (described in Section 3.10) to ensure the impacts associated with use are ALARP and acceptable.</p>	<p>MC 6.1.1 Records demonstrate the chemical selection, assessment and approval process for operational chemicals is followed.</p>
	<p>C 6.2 Subsea infrastructure flushed and appropriately isolated where practicable during IMMR disconnection activities.</p>	<p>PS 6.2 Subsea infrastructure containing hydrocarbons flushed (where practicable) to a hydrocarbon concentration which provides considered diminishing returns prior to disconnection. Appropriate isolations applied where practicable.</p>	<p>MC 6.2.1 Records demonstrate subsea infrastructure flushing and isolations applied where practicable.</p>
	<p>C 6.3 Implement facility isolation procedure so that proven isolation is in place for relevant IMMR activities.</p>	<p>PS 6.3 Proven isolation in place in compliance with facility Isolation procedure.</p>	<p>MC 6.3.1 Records demonstrate that proven isolation in place as required.</p>
	<p>C 6.4 Monitor subsea control fluid use and investigate material discrepancies to support identification of potential integrity failures.</p>	<p>PS 6.4 Subsea control fluid use monitored and, where losses are unexplained, potential integrity issues are investigated.</p>	<p>MC 6.4.1 Records demonstrate subsea control fluid use is documented, and unexplained discrepancies investigated.</p>

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6.6.5 Routine and Non-routine Discharges: Discharge of Sewage, Putrescible Waste, Greywater, Bilge Water, Drain Water, Cooling Water and Brine

Context														
Subsea Support Vessels – Section 3.9							Physical Environment – Section 4.4 Biological Environment – Section 4.5							
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted						Evaluation							
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity		Likelihood	Risk Level	ALARP Tool	Acceptability
Marine discharges of liquid wastes from IMMR vessel utility systems and drains (sewage, greywater, RO brine reject, cooling water, food waste, rainfall / deck washdown water, firewater deluge testing).			✓				A	1 -Minor	Cumulative 1 - Minor	-	-	LCS GP	Tolerable	EPO 7
Description of Source of Impact														
<p>Sewage, Putrescible Waste and Greywater</p> <p>Vessels may discharge sewage, greywater and putrescible wastes. Sewage onboard vessels is routinely treated (either via sewage treatment plant (STP) or macerator) prior to discharge. Treatment systems may require routine maintenance or repair during operations, which may require infrequent, short periods in which sewage is directly discharged overboard as treatment systems are not always operational.</p> <p>The volume of sewage and greywater expected to be generated on a subsea support vessel during IMMR activities is estimated to be in the order of 8 to 9 m³ per day (based on an average volume of 75 L/person/day). The actual volume of discharge varies depending on personnel levels on the vessels.</p> <p>Note that wastes may also be stored and transported to shore for disposal.</p> <p>Drain and Bilge Water</p> <p>Vessels routinely generate and discharge relatively small volumes of bilge water. Bilge tanks receive fluids from many parts of the vessel, including machinery spaces. Bilge water can contain water, oil, detergents, solvents, chemicals, particles and other liquids, solids or chemicals. Vessels may also discharge drainage water from decks directly overboard or via deck drainage systems; deck drainage may also contain traces of chemicals. Water sources could include rainfall events and/or from deck activities such as cleaning/wash-down of equipment/decks.</p> <p>Cooling Water</p> <p>Seawater is used on vessels as a heat exchange medium for the cooling of 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 (i.e., it is a once-through system). Cooling water temperatures vary depending upon the vessel's engine workload and activity. Seawater used for cooling is dosed with sodium hypochlorite to inhibit marine growth to a target chlorine concentration of 0.5 ppm.</p>														

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Brine

Brine generated from the water supply systems onboard vessels will be discharged to the ocean at a salinity of approximately 10% higher than seawater. The volume of the discharge is dependent on the requirement for fresh (or potable) water and would vary between vessels and the number of people onboard. Small quantities of anti-scaling and cleaning chemicals may also be discharged with the brine.

Impact Assessment**Water Quality***Sewage, Putrescible Waste and Greywater*

The environmental impact associated with ocean disposal of sewage, greywater and putrescible waste is eutrophication. Eutrophication occurs when the addition of nutrients, such as nitrates and phosphates, causes adverse changes to the ecosystem, such as oxygen depletion and phytoplankton blooms.

No significant impacts from the planned discharges from IMMR vessels to the marine environment are anticipated due to the minor quantities involved, the expected localised mixing zone and the high level of dilution into the open water marine environment of the Operational Area.

Although the NWS Province is characterised as a low nutrient environment (DEWHA, 2008), studies of adjacent shelf water have found the area to be "a highly productive ecosystem in which nutrients and organic matter are rapidly recycled" (Furnas and Mitchell 1999). Occasional loading from sewage and putrescible waste from IMMR vessels is not significant in comparison to the daily turnover of nutrients in the area. Vessels are typically moving when in the Operational Area, which facilitates the mixing of sewage, putrescible wastes and greywater from vessels.

The impact of nutrients associated with discharge of sewage, greywater and putrescible waste is considered to have a localised impact with no lasting effect due to the small mass relative to daily turnover, and the assimilative capacity of the receiving environment.

Drain and Bilge Water

The impacts of drainage can include a decline in water quality and may be directly toxic to marine organisms, with impacts varying depending on volumes and type of contaminants.

Drain water from IMMR vessels may contain small quantities of hydrocarbons and other chemicals such as detergents. This means floating hydrocarbons are not routinely discharged to the environment via drains; any hydrocarbons discharged are primarily soluble fractions, with very low concentrations expected.

Impacts from drainage water from IMMR vessels are assessed as being highly localised and short-lasting. Bilge and deck drainage water from vessels is expected to mix rapidly in the marine environment upon discharge. Given the rapid mixing, relatively small typical bilge and deck drainage water, and expected low levels of potential contaminants, impacts from bilge and deck drainage water from vessels are assessed as short-lasting and highly localised.

Cooling Water

The impacts of cooling water can include a decline in water quality and may directly affect marine organisms due to temperature changes, with impacts varying depending on volumes, temperature, and type of contaminants.

Temperature change from cooling water may affect open-water receptors (fish and plankton populations). Elevated seawater temperatures may cause a variety of effects on both fish and plankton, ranging from behavioural response (including attraction and avoidance behaviour) and minor stress from prolonged exposure. Fish are unlikely to be impacted by the elevated temperatures other than through behavioural changes (avoidance and attraction). While impacts to plankton may include mortality, with the rapid turnover of plankton communities and mixing of adjacent populations, populations are expected to recover rapidly once discharge ceases.

Discharged cooling water is typically warmer than the surrounding seawater, which typically ranges from 24.3 to 28.5 °C (average of 26.4 °C). Given this difference in temperature, discharged cooling water is relatively buoyant compared to the receiving seawater, and forms a plume in near-surface waters down current from the discharge location. As a surface plume, discharged cooling water is mixed by sea surface waves and wind.

Monitoring of water in the mixing zone around a Woodside production facility (GWA platform) indicates that water temperatures are consistent with background levels at the platform location (BMT Oceanica 2015), and sodium hypochlorite from cooling water systems is not measurable, so vessel discharges, which would be much smaller volumes than those monitored, are expected to have little effect in the marine environment.

Brine

Brine plumes may result in osmotic stress to marine biota that rely on gills or diffusion across cell membranes to maintain osmotic pressure within cells. Mobile fauna such as fish may move away from the brine plume; hence impacts will be restricted to planktonic and sessile organisms.

Once discharged into the marine environment, the brine plume sinks due to its relatively high density. Sinking of the plume facilitates turbulent mixing, as do currents and waves. Impacts from vessel RO brine discharge will have no lasting effects on the environment and are highly localised to the discharge location and only during IMMR activities.

Cumulative Impacts

There is little potential for cumulative impacts from routine discharges of sewage, putrescible waste, greywater, bilge water, drain water, cooling water and brine during the Petroleum Activities Program. This is due to the occasional frequency and short timeframe of IMMR campaigns. The well-mixed receiving environment will also reduce impacts to no more than slight and short-term. No cumulative impacts from similar discharges from other nearby production facilities (e.g., Pyrenees FPSO) are expected.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)³²	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation, Codes and Standards				
Contract vessels compliant with Marine Orders for safe vessel operations: <ul style="list-style-type: none"> • Marine Orders 91 (Oil) • Marine Orders 95 (Pollution prevention – Garbage) • Marine Orders 96 – (Pollution prevention – sewage) 	F: Yes CS: Minimal cost. Standard practice.	Marine Orders required under Australian regulations; implementation is standard practice for commercial vessels as applicable to vessel size, type and class. Marine Orders 91, 95 and 96 (pollution prevention) reduces the potential impact of marine wastewater discharges on water quality.	Controls based on legislative requirements – must be adopted.	Yes C 7.1
Good Practice				
Chemical Selection and Assessment Environment Guideline	F: Yes. Woodside routinely implements a chemical selection process, which is based on the OCNS. CS: Minimal. The OCNS is widely used throughout the industry and chemical suppliers are aware of the requirements of the scheme.	Selection and assessment of chemicals in accordance with the Woodside process, reduces environmental impacts associated with planned chemical discharge.	The Woodside's chemical selection process is used to ensure chemicals are selected with the lowest practicable environmental risks while still providing the required technical capability.	Yes C 7.1

³² Qualitative measure

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)³²	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Professional Judgement – Eliminate				
Vessel decks re-designed to capture and treat all drainage.	F: No. Discharge from deck drainage is produced from rainfall events and is unavoidable. CS: Eliminating the discharge by collecting all contaminated run-off and storing it is not practicable due to the size/weight and complexity of the facilities required on the vessels. Transporting waste to shore is not a practicable option due to increased financial, logistical, and HES risks and impacts.	Not considered – control not feasible.	Not considered – control not feasible.	No
Storage, transport and treatment / disposal onshore of sewage, greywater, putrescible and bilge wastes.	F: No. Transport of waste onshore would present additional safety and hygiene hazards resulting from the storage, loading and transport of the waste material CS: Not considered – control not feasible	Not considered – control not feasible.	Not considered – control not feasible.	No
Professional Judgement – Substitute				
Transport of potable water from shore for IMMR vessels.	F: Yes. Potable water can be sourced from onshore water supplies. CS: Significant. The costs and operational complexity associated with potable water bunkering outweigh cost and negligible environmental footprint associated with offshore RO supply.	The potential environmental impact is ranked as having negligible effect; Eliminating RO brine the discharge would provide negligible environmental gain.	When considering the negligible impact from the discharge of RO brine reliance on bunkering of potable water and incremental support vessel activities is disproportionate to the environmental impact.	No
Professional Judgement – Engineered Solution				
None identified				

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Demonstration of ALARP

<i>Control Considered</i>	<i>Control Feasibility (F) and Cost/Sacrifice (CS)³²</i>	<i>Benefit in Impact/Risk Reduction</i>	<i>Proportionality</i>	<i>Control Adopted</i>
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ALARP Statement:

On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts of discharge of sewage, putrescible waste, greywater, bilge water, drain water, cooling water and brine. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.

Demonstration of Acceptability

Acceptability Statement:

The impact assessment has determined that, given the adopted controls, impacts from the discharge of sewage, putrescible waste, greywater, bilge water, drain water, cooling water and brine represent localised short-term impacts, that together are unlikely to result in a potential impact greater than slight, short-term contamination above background levels outside a localised mixing zone. Further opportunities to reduce the impacts and risks have been investigated above. The adopted controls are considered good oil-field practice/industry best practice and meet legislative requirements under Marine Orders 91, 95 and 96. The potential impacts and risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of these discharges to a level that is broadly acceptable.

EPOs, EPSs and MC

<i>Environmental Performance Outcomes</i>	<i>Controls</i>	<i>Environmental Performance Standards</i>	<i>Measurement Criteria</i>
EPO 7 Limit water quality impacts from routine and non-routine wastewater discharges to Minor (1) during the Petroleum Activities Program.	C 7.1 Contract vessels compliant with Marine Orders for safe vessel operations: <ul style="list-style-type: none"> • Marine Orders 91 (Oil) • Marine Orders 95 (Pollution prevention – Garbage) • Marine Orders 96 – (Pollution prevention – sewage). 	PS 7.1 Vessels contracted whose practices comply with Marine Orders as applicable to vessel size, type and class.	MC 7.1.1 Marine verification records demonstrate compliance with standard maritime safety procedures (Marine Orders 91, 95 and 96).
	Refer to C 6.1 Section 6.6.4	Refer to PS 6.1 Section 6.6.4	Refer to MC 6.1.1 Section 6.6.4

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6.6.6 Routine and Non-Routine Atmospheric and GHG Emissions

Context														
Subsea Support Vessels – Section 3.9							Physical Environment – Section 4.4				Consultation – Appendix F			
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted						Evaluation							
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Atmospheric and GHG emissions generated by IMMR activities and associated vessels				✓				A	1 - Minor	-	-	LCS GP PJ	Broadly Acceptable	EP O 8
Atmospheric and GHG emissions associated with onshore processing, third party transportation, regassification and combustion by end users				✓	✓			B	1-Minor	-	-	LCS GP PJ RB A CV SV	Acceptable if ALARP	EP O 9
Description of Source of Impact														
<p>Atmospheric emissions attributed to the Macedon field production system, as assessed in this EP, can be classified into two categories:</p> <ul style="list-style-type: none"> Atmospheric pollutants (non-GHG emissions) are gases or particles produced from vessels within the Operational Area, which are discharged to the atmosphere and pose a recognised level of adverse effect on flora, fauna and/or human health. GHG emissions refer to gases that trap heat within the atmosphere through the adsorption of longwave radiation reflected from the earth's surface. This includes both direct and indirect GHG emissions. <p>In this section GHG are estimated using the National Greenhouse and Energy Reporting (NGER) Measurement Determination 2008 (as amended including 100-year Global Warming Potential).</p> <p><u>Indirect Atmospheric and GHG emissions</u></p> <p>GHG and Atmospheric Emissions from Vessels</p> <p>GHG and atmospheric emissions are generated by vessels involved in IMMR activities from internal combustion engines, but may also include generators and deck equipment. Atmospheric emissions will include SO_x, NO_x, particulates and VOCs. SO_x and particulate matter emissions are heavily influenced by the fuel used and its relative sulphur content e.g. marine grade oil (MGO) has a lower sulphite content than heavy fuel oil (HFO).</p>														

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GHG emissions generated during the petroleum activities program will vary, however an estimate has been provided for a typical, routine IMMR activity, being a full Macedon pipeline inspection in Commonwealth waters using a crewed subsea support vessel which consumes approximately 9000 L of marine diesel (MDO) per day, and takes approximately five days to complete. Estimated GHG emissions for a typical IMMR campaign:

- 122 tCO_e.

This figure is an estimate only and does not include steaming to or from the Operational Area, or time in harbour. Inspections are undertaken on a 1-5 year frequency, based on RBI methodology. The actual consumption of fuel varies based on factors such as the nature of activity being undertaken by the vessel, metocean conditions, crewed or uncrewed etc. Applying definitions from the GHG Protocol Corporate Accounting and Reporting Standard, GHG emissions associated with the activity are considered indirect because they are not from sources that are owned or controlled by Woodside. Therefore while Woodside has influence over GHG emissions from the vessels via contractual arrangements and scope definition, Woodside does not have the authority to implement operational policies.

GHG Emissions from Processing and Product End-use Attributable to Macedon

Indirect emissions attributed to the Macedon field production system results from hydrocarbon processing (onshore) and customer consumption of domestic gas. Indirect GHG emissions attributed to the Macedon field production system were estimated using forecasted production based on expected reservoir performance and accepted emission factors. historical emissions. Key influences impacting indirect GHG emissions from the Macedon field production system include:

- Total production – indirect emissions are proportional to total production, which varies with shutdown activity, new field tiebacks or gradual reservoir decline.
- Composition of produced gas – onshore emissions are proportional to reservoir CO₂.

Based on forecasted production rates, the indirect emissions from the Macedon field production system, including those from onshore hydrocarbon processing and domestic gas end user consumption are estimated to be approximately 3.93 MtCO_{2e} per annum.

These annual emissions are likely to continue through this EP period. This estimate may vary, particularly the timeframe beyond this current EP period, as it is subject to many factors, such as reservoir performance.

Woodside's current forecast is that the reservoir(s) produced via the Macedon field production system will decline toward EOF. Other reservoirs may be discovered and/or tied-back to Macedon to mitigate the decline, but overall, the trend of hydrocarbon production from Macedon and associated indirect emissions from onshore processing and domestic gas consumption are expected to also decline over the life of the asset.

Table 6-4: Summary of indirect GHG emissions attributable to Macedon

Source of Impact	Annual estimated emissions (MtCO _{2e})	Total possible emissions over 5 year EP period (MtCO _{2e})
Indirect GHG Emissions		
Vessel fuel consumption	0.0001	0.0006
Onshore hydrocarbon processing	0.13 ¹	0.65
Domestic gas consumption	3.80 ²	19

¹ source: Macedon NGER report FY2021/22 and Macedon Forecasts, NGER Determination

² source: NGER Schedule 1 (Consumption) S3.80 (Distribution)

Global efforts to reduce greenhouse gas emissions in order to meet climate goals are changing the way the world produces and consumes energy. This energy transition is uncertain and there is a wide range of potential demand for oil, gas and new energy including in pathways consistent with limiting global temperature rise. Today, Woodside has a portfolio of oil and gas assets. We are also developing a portfolio of new energy products and lower carbon services. Across our portfolio we seek to match the pace, scale and needs of our customers as they determine their own decarbonisation pathways. We see an ongoing role for natural gas from Macedon to support our customers plans to secure their energy needs, while they reduce their emissions.

Impact Assessment

Air Quality

Vessel routine and non-routine emissions, predominantly routine fuel combustion have the potential to generate dark smoke and particulates resulting in a localised and temporary- H reduction in air quality. Potential impacts of atmospheric emissions depend on the nature of the emissions, as well as the location and nature of the receiving environment.

The Operational Area is in a remote offshore location, with no expected adverse interaction with populated areas or sensitive environmental receptors associated with air emissions.

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There is a breeding BIA for the wedge-tailed shearwater overlapping the Operational Area; as such, wedge-tailed shearwaters may occur nearby. The nearest potential seabird roosting habitat is at the Muiron Islands which lies approximately 8.7 km south of the Operational Area at the closest point. Whilst the Muiron Islands is known to be one of the largest nesting sites for wedge-tailed shearwater birds, the limited volume of emissions from the short duration and infrequent activities expected in the Operational Area, combined with the highly dispersed nature of air emissions; means that no adverse impacts to wedge-tailed shearwaters are anticipated.

Potential impacts are expected to be short-term, and limited to the airshed 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.

Greenhouse Gas Emissions - Habitat and Biological Communities, Protected Species, Key Ecological Features, Protected Places, Socioeconomic and Cultural Environment

This impact assessment considers the potential impacts of climate change on sensitive receptors, including MNES within Australian jurisdictions. Climate change impacts cannot be directly attributed to any one activity, as they are instead the result of global GHG emissions, minus global GHG sinks, that have accumulated in the atmosphere since the industrial revolution started. They do not take into account the net impact of each project or activity. There is no direct link between greenhouse gas emissions from the Macedon facility and climate change impacts.

Impacts relating to climate change associated with the emission of GHG (direct and indirect) have been assessed in this EP in accordance with the EPBC Act Policy Statement - 'Indirect consequences' of an action: Section 527E of the EPBC Act (DSEWPAC, 2013).

Climate change impacts upon Australian receptors cannot be directly causally linked to the Macedon facility but are instead the result of the accumulation of greenhouse gas emissions in the atmosphere. The accumulation of greenhouse gas emissions in the atmosphere is, in turn, influenced by global energy demand and the composition of the global energy mix. The following contextual evaluation is provided. This contextual evaluation assessment considers the potential impacts of climate change on sensitive receptors, including MNES within Australian jurisdictions.

Climate science is a rapidly evolving field in which new observations continue to deepen understanding of the current and potential impacts of global warming, and the possible pathways for mitigation and adaptation (Woodside 2023a).

The IPCC is the United Nations body for assessing the science related to climate change, and is finalising the Sixth Assessment Report (AR6) which consists of three Working Group contributions and a Synthesis Report. The outcomes of the working group contributions were summarised in Woodside's (2023a) Climate Report:

- The AR6 Working Group I (AR6-WG1) report stated that it is unequivocal that there is human-induced warming. It also stated that increased atmospheric carbon dioxide (CO₂) levels, generated by human activity, are the largest driver of warming over the longer term, and that there are a range of factors, including emissions of methane, which increase warming in the short-term.
- The AR6-WG2 report stated that human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people, beyond natural climate variability. It stated that global warming, reaching 1.5°C in the near-term, would cause unavoidable increases in multiple climate hazards and present multiple risks to ecosystems and humans. The report noted that societal choices and actions implemented in the next decade will determine the extent to which medium- and long-term pathways will deliver climate resilient development.
- The AR6 Working Group III (AR6-WG3) report provided an updated global assessment of climate change mitigation progress and pledges, and examined the sources of global emissions. It explained developments in emissions reduction and mitigation efforts, and assessed the impact of national climate pledges in relation to long-term emissions goals. More than 2,000 quantitative emissions pathways were submitted to the IPCC, of which 1,202 scenarios included sufficient information for assessing the associated warming. The report found that there are many pathways in the literature that likely limit global warming to 2°C with no overshoot, or to 1.5°C with limited overshoot. These variations occur because, while climate science is able to calculate a 'carbon budget' of net emissions before any particular temperature outcome is reached, the allocation of this budget between different human activities requires additional judgements about for example technology, economics, consumer preferences and policy choices.

The AR6 Working Group I (AR6-WGI) report states "[c]limate change is a global phenomenon, but manifests differently in different regions" (IPCC 2021b). IPCC projections for climate change in Australia from the AR6 Working Group II (AR6-WGII) report include:

- further climate change is inevitable, with the rate and magnitude largely dependent on the emission pathway (*very high confidence*)³³
- ongoing warming is projected, with more hot days and fewer cold days (*very high confidence*)
- further sea level rise, ocean warming, and ocean acidification are projected (*very high confidence*)

³³ A level of confidence is expressed using five qualifiers: very low, low, medium, high, and very high. For a given evidence and agreement statement, different confidence levels can be assigned, but increasing levels of evidence and degrees of agreement are correlated with increasing confidence (Lawrence et al. 2022).

- less winter and spring rainfall is projected in southern Australia, with more winter rainfall in Tasmania, less autumn rainfall in southwestern Victoria and less summer rainfall in western Tasmania (*medium confidence*), with uncertain rainfall changes in northern Australia.
- more extreme fire weather is projected in southern and eastern Australia (*high confidence*)
- increased drought frequency is projected for southern and eastern Australia (*medium confidence*)
- increased heavy rainfall intensity is projected, with fewer tropical cyclones and a greater proportion of severe cyclones (*medium confidence*) (Lawrence et al. 2022).

The AR6-WGII report identified nine key climate risks for the Australasian region:

- loss and degradation of coral reefs and associated biodiversity and ecosystem service values in Australia due to ocean warming and marine heatwaves (*very high confidence*)
- loss of alpine biodiversity in Australia due to less snow (*high confidence*)
- transition or collapse of alpine ash, snowgum woodland, pencil pine and northern jarrah forests in southern Australia due to hotter and drier conditions with more fires (*high confidence*)
- loss of kelp forests in southern Australia due to ocean warming, marine heatwaves, and overgrazing by climate-driven range extensions of herbivore fish and urchins (*high confidence*)
- loss of natural and human systems in low-lying coastal areas due to sea level rise (*high confidence*)
- disruption and decline in agricultural production and increased stress in rural communities in south-western, southern and eastern mainland Australia due to hotter and drier conditions (*high confidence*)
- increase in heat-related mortality and morbidity for people and wildlife in Australia due to heatwaves (*high confidence*)
- cascading, compounding and aggregate impacts on cities, settlements, infrastructure, supply-chains and services due to wildfires, floods, droughts, heatwaves, storms and sea level rise (*high confidence*)
- inability of institutions and governance systems to manage climate risks (*high confidence*) (Lawrence et al. 2022).

An earlier report by Australia's Biodiversity and Climate Change Advisory Group summarised the potential impacts of climate change to marine and terrestrial species, habitats and ecosystems across Australia (Steffen et al. 2009). The 2009 report identified examples of observed changes in Australia's biota that were considered consistent with the emerging climate change 'signal', as genetic constitution, geographic ranges, life cycles, populations, ecotonal boundaries, ecosystems, and disturbance regimes (Steffen et al. 2009). The report also stated:

- "Biodiversity is one of the most vulnerable sectors to climate change"
- "Australia's biodiversity is not distributed evenly over the continent but is clustered in a small number of hotspots with exceptionally rich biodiversity", and that these "include the Great Barrier Reef, south-west Western Australia, the Australian Alps, the Queensland Wet Tropics and the Kakadu wetlands"

Further, it was stated that "many of the most important impacts of climate change on biodiversity will be the indirect ones at the community and ecosystem levels, together with the interactive effects with existing stressors (Steffen et al. 2009). Future climate change (e.g. increased temperature and decreased, but more variable, rainfall) has the potential to have a range of impacts on ecological factors and threaten biodiversity in the Australian mediterranean ecosystem (CSIRO 2017).

Extensive modelling and monitoring studies over the last twenty years provide considerable evidence that global climate change is already affecting and will continue to affect species (Hoegh-Guldberg et al. 2018) however these impacts are likely to be highly species-dependent and spatially variable. The most frequently observed and cited ecological responses to climate change include species distributions shifting towards the poles, upwards in elevation and shifts in phenology (earlier and later autumn life-history events) (M. Dunlop et al. 2012). Climate change may not only change species distribution patterns but also life-history traits such as migration patterns, reproductive seasonality and sex ratios (Steffen et al. 2009).

Impacts of climate change such as altering temperature, rainfall patterns and fire regimes, are likely to lead to changes in vegetation structure across all terrestrial ecosystems within Australia (M. Dunlop et al. 2012; Steffen et al. 2009). Increases in fire regimes will impact Australian ecosystems altering composition structure, habitat heterogeneity and ecosystem processes. Changes in climate variability, as well as averages, could also be important drivers of altered species interactions, both endemic and invasive species (M. Dunlop et al. 2012). Climate change could result in significant ecosystem shifts, as well as alterations to species ranges and abundances within those ecosystems (Hoegh-Guldberg et al. 2018).

The 'loss of climatic habitat caused by anthropogenic emissions of greenhouse gases' has been listed as a key threatening process under the EPBC Act (DCCEEW 2021). The threatening process consists of reductions in the bioclimatic range within which a given species or ecological community exists due to emissions induced by human activities of greenhouse gases (DCCEEW 2021). The process is considered to have a continental distribution, including both terrestrial and marine areas. Ecosystems in which the process occurs include: alpine habitats, coral reefs, wetlands and coastal ecosystems, polar communities, tropical forests, temperate forests, and arid and semi-arid environments (DCCEEW 2021).

Coral reefs were recognised by both IPCC and the Australian Government as being at risk of climate change (Lawrence et al. 2022; DCCEEW 2021). Protected coral reef areas in Australia include those within World Heritage listed sites, such as Ningaloo Coast, Shark Bay, or the Great Barrier Reef. Climate change has been identified as a threat for each of

these World Heritage areas, with potential risks to coral reef as well as other environmental values (such as marine fauna) within these ecosystems (IUCN 2020b; 2020c; 2020a).

Climate variability and change has been identified as a threat to some EPBC Act protected species, including marine turtles, whales, seabirds and migratory shorebirds:

- the Recovery Plan for Marine Turtles in Australia (CoA 2017) states that “[c]limate change is of particular concern to marine turtles because it is likely to have impacts across their entire range and at all life stages. Climate change is expected to cause changes in dispersal patterns, food webs, species range, primary sex ratios, habitat availability, reproductive success and survivorship”.
- the Conservation Management Plan for the Blue Whale (CoA 2015a) states: [c]limate change is expected to cause changes in migratory timing and destinations, population range, breeding schedule, reproductive success and survival of baleen whales, including blue whale species and subspecies”
- the Wildlife Conservation Plan for Seabirds (CoA 2022) states that “[c]onsequences to seabirds could include negative impacts from an increase in extreme weather events, reduced or changed prey abundance and distribution, and decrease in nesting habitat”
- the Wildlife Conservation Plan for Migratory Shorebirds (CoA 2015) states that “[s]uch changes have the potential to affect migratory shorebirds and their habitats by reducing the extent of coastal and inland wetlands or through a poleward shift in the range of many species”.

The North-west Marine Parks Network Management Plan 2018 (DNP 2018) identifies climate change as a pressure that may impact marine park values. The management plan states that “[t]he impacts of climate change on the marine environment are complex and may include changes in sea temperature, sea level, ocean acidification, sea currents, increased storm frequency and intensity, species range extensions or local extinctions, all of which have the potential to impact on marine park values” (DNP 2018).

Within the Marine Bioregional Plan for the NWMR (DSEWPac 2012), pressures related to climate change are assessed as ‘of potential concern’ for species of marine turtle, inshore dolphins, sawfish, sea snakes, whale shark, dugong, and seabird and shorebird, as well as the KEFs and shipwrecks known to occur in the NWMR.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)³⁴	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation, Codes and Standards				
Vessel operations compliant with Marine Order 97 (Marine Pollution Prevention – Air Pollution) to reduce atmospheric emissions associated with vessel operations.	F: Yes CS: Minimal cost. Standard Practice.	Marine Order 97 is required under Australian regulations; implementation is standard practice for commercial vessels as applicable to vessel size, type and class.	Control based on legislative requirements – must be adopted.	Yes C 8.1
National Greenhouse and Energy Reporting Scheme and National Pollutant Inventory (NPI) reporting – estimation of greenhouse gas, energy and criteria pollutants.	F: Yes CS: Minimal cost. Standard Practice.	Control based on legislative requirements to provide the national reporting framework for the reporting and dissemination of information related to emissions, hazardous wastes, greenhouse gas emissions, greenhouse gas projects, energy consumption and energy production to meet the objectives and desired outcomes of the legislation(s) such as: <ul style="list-style-type: none"> • the maintenance and improvement of air and 	Control based on legislative requirements – must be adopted.	Yes C 8.2

³⁴ Qualitative measure

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)³⁴	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
		<p>water quality, minimisation of environmental impacts associated with hazardous wastes; and an improvement in the sustainable use of resources; and</p> <ul style="list-style-type: none"> act as the single framework to inform policy, meet reporting requirements, avoid duplication, and to ensure that facility net greenhouse gas emissions are managed within applicable baselines. 		
Good Practice				
Contracting strategy and evaluation for hire of support vessels includes consideration of vessel emissions parameters and low carbon / alternative fuels.	F: Yes CS: Fuel cost over the five year contract is considered in evaluation of responses, allowing for competitive consideration of low carbon alternatives (e.g. batteries).	Minimises cost and emissions through eco-efficiency approach recognising cost of fuel and carbon emissions over the contract term	Control effectively allocates a cost to emissions to recognise that higher emitting fuel sources with other lower operating costs do not represent overall best value.	Yes C 8.3
Vessels will hold a current International Air Pollution Prevention (IAPP) Certificate or equivalent.	F: Yes CS: Standard Practice. Minimal Cost	Ensures only vessels that comply with IAPP Certificate requirements are used for the Petroleum Activities Program, ultimately reducing the potential for unnecessary emissions.	Controls based on legislative requirements must be accepted. Benefits outweigh any cost sacrifice.	Yes C 8.4
The vessels will use marine-grade low sulphur diesel.	F: Yes CS: Standard Practice. Minimal Cost	Reduces the level of pollutants released to the environment during fuel combustion.	Controls based on legislative requirements must be accepted. Benefits outweigh any cost sacrifice.	Yes C 8.5
Implement a program to monitor market developments related to the contribution of natural gas in the energy transition.	F: Yes CS: Moderate cost. Standard practice.	Implementing a program to monitor market developments will support the transitioning to a lower carbon future. This is aligned with Paris Agreement to limit climate change to well below 2°C.	Benefits outweigh cost sacrifice.	Yes C 9.1

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Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)³⁴	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
<ul style="list-style-type: none"> Working with the natural gas value chain to reduce methane emissions in third party systems (e.g. regasification and distribution), such as through the adoption of the Methane Guiding Principles. Promoting the role of LNG in displacing higher carbon intensity fuels. Supporting the development of new technologies to reduce higher carbon intensive energy sources. Advocacy for stable policy frameworks that reduce carbon emissions. Monitoring the global energy outlook including the demand for lower carbon intensive energy such as LNG and displacing higher carbon intensive fuels. 				
Professional Judgement – Eliminate				
None identified				
Professional Judgement – Substitute				
Use of renewable energy to power vessel.	F: No. Not commercially proven for large vessels that require a reliable steady fuel source. CS: Not assessed, control not feasible.	Not assessed, control not feasible.	Not assessed, control not feasible.	No
Professional Judgement – Engineered Solution				
None identified				
ALARP Statement:				

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Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)³⁴	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
<p>Atmospheric Emissions</p> <p>On the basis of the environmental risk assessment outcomes and the use of the relevant tools appropriate to decision type A, Woodside considers the adopted controls appropriate to manage the impacts of atmospheric emissions. As no reasonable additional/alternative controls were identified that would further reduce the impacts without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.</p> <p>GHG Emissions</p> <p>On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type (i.e. Decision type B), Woodside considers the adopted controls appropriate to manage GHG emissions from vessels and indirect emissions sources that Woodside can practicably influence during the term of this EP. The adopted controls meet legislative requirements including:</p> <ul style="list-style-type: none"> • Marine order 97 for support vessels • NGERS and NPI reporting for direct emissions attributed to Macedon • <i>National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015.</i> <p>Indirect GHG emissions from onshore processing are managed under Ministerial Statement 844</p> <p>Consultation was undertaken for this program to identify the views and concerns of relevant stakeholders, as described in Section 2. No specific concerns around air emissions, resulting in changes to air quality and greenhouse gas emissions, were identified through this process.</p> <p>As no reasonable additional/alternative controls were identified that would further reduce the impacts without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.</p>				

Demonstration of Acceptability
<p>Acceptability Statement: Atmospheric Emissions</p> <p>Given the adopted controls, atmospheric emissions represent a negligible impact that is unlikely to result in greater than isolated impacts within close proximity of the Operational Area. The adopted controls are considered good oil-field practice/industry best practice and meet requirements of Australian Marine Orders and National Pollutant Inventory reporting.</p> <p>The potential impacts and risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of atmospheric emissions to a level that is broadly acceptable.</p>
<p>Acceptability Statement: Greenhouse Gas Emissions</p> <p>To assess and determine that impacts from GHG emissions will be of an acceptable level, Woodside considered corporate commitments, principles of Ecologically Sustainable Development, Company Values and Societal Values.</p> <p>Principles of ESD</p> <p>Giving considerations to economic development that safeguards the welfare of future generations, Macedon is considered to align with the following core objectives of ESD by:</p> <ul style="list-style-type: none"> - Responding to the global energy transition, providing a clean and reliable energy source as gas is expected to play a key role in the future energy mix (e.g. partner with renewables). In addition, gas has the potential to contribute to an incremental reduction in global GHG emissions by displacing more carbon intensive power generation (e.g. coal), firming up renewables, or in hard-to-abate sectors. - Committing to management and mitigation measures for GHG emissions within operational control of the facility, given the uncertainty about future climate change trajectories. - Committing to mitigation measures for indirect GHG emissions that are controlled or influenced by Operator and connected to the operations of the Macedon offshore infrastructure. - Contributing to the UN Sustainable Development Goals of achieving universal access to energy. - Providing gas to customers within countries that have ratified the Paris agreement, where each country is responsible for accounting for, reporting and reducing emissions that physically occur in its jurisdiction. <p>Internal Context</p>

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The Petroleum Activities Program is consistent with Woodside corporate policies, culture, processes, standards, structure and systems as outlined in the demonstration of ALARP and environmental performance outcomes, including:

- Woodside Environment and Biodiversity Policy.
- [Woodside Climate Change Policy](#) which includes the following principles that are implemented company-wide:
 - Setting science-based near, mid, and long-term net emissions reduction targets that are consistent with Paris-aligned scenarios, covering equity Scope 1 and 2 emissions, both operated and non-operated.
 - Developing and operating oil and gas projects in a manner that is consistent with these targets. This includes the deployment of lower-emission technologies (Design Out), supporting efficient operations (Operate Out) and use of robust offsets (Offset) as methods to reduce and offset greenhouse gas emissions.
 - Investing in new energy products and lower carbon services to reduce customers' emissions (part of Woodside's Scope 3 emissions), including but not limited to hydrogen, ammonia and carbon capture, utilisation and storage.
 - Publishing transparent climate-related disclosures aligned to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) or other recognised global reporting standards.

Aligning advocacy to the principles of the Climate Policy. Setting clear targets, to reduce net equity emissions below a starting base representative of annual average gross equity emissions for 2016 to our 2020 (Woodside 2023a Woodside has announced an aspiration of net zero equity Scope 1 and GHG emissions by 2050 or sooner. (Woodside 2023a).

External Context

Woodside recognises that our licence to operate from a regulator and societal perspective is based on historical performance, complying with appropriate policies, standards and procedures, and understanding the expectations of external stakeholders. GHG emissions are a global concern as such Woodside has undertaken an impact assessment of GHG from the Macedon operations and implemented the mitigation and management controls to manage potential impacts to an acceptable level.

According to Wood Mackenzie Energy Research Consultancy, LNG from Woodside operated facilities is amongst the lowest carbon intensity in the world delivered into North Asia.³⁵

The global consensus on climate change led to the implementation of the Paris Agreement. The aim of the Paris Agreement, as stated in the Article 2.1(a), is to hold the increase in global average temperature to well below 2°C above pre-industrial levels. The Agreement also aims to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change.

Paris Agreement text extract³⁶:

"Article 2

1. This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:

(a) Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;"

This was reaffirmed in December 2023 in the COP28 decision text on the First global stocktake.³⁷ The text further recognized that the transition away from fossil fuels in energy systems is to be done in a just, orderly and equitable

³⁵ Export from the Wood Mackenzie LNG Carbon Emissions Tool available from:

<https://www.woodside.com/docs/default-source/our-business---documents-and-files/pluto---documents-and-files/wood-mackenzie-lng-carbon-emissions-tool.pdf>

³⁶ Paris Agreement: https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf

³⁷ FCCC/PA/CMA/2023L.17 (Draft decision distributed 13 December 2023) First global stocktake text extracts https://unfccc.int/sites/default/files/resource/cma2023_L17_adv.pdf (Section I, Clause 3)

manner accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science.³⁸ It also recognises that transitional fuels can play a role in facilitating the energy transition while ensuring energy security³⁹. The Paris Agreement establishes a framework where countries make Nationally Determined Contributions (NDCs) to manage and reduce their own emissions.

Australia has ratified the Paris Agreement and has set a target to reduce emissions by 43 per cent below 2005 levels by 2030 and to reach net-zero emissions by 2050. Australia’s emissions projections under a ‘with additional measures’ scenario is projected to be 43% below 2005 levels by 2030 and to reach net zero emissions by 2050 (DISER 2022a). Australia’s emissions projections demonstrate that it is on track to reduce emissions by up to 43% below 2005 levels by 2030 (DCCEEW 2022; DISER 2022a).

Woodside considers that a stable energy transition will be one in which energy is affordable and reliable, as well as lower carbon. The Macedon facility will provide an incremental volume of hydrocarbons to Australian markets during its estimated remaining field life. Woodside considers that this development is aligned with their goals for supporting the energy transition and is compatible with the Paris Agreement goal to limit global warming to below 2°C.

Woodside is a signatory to the Methane Guiding Principles (MGP 2022), which is a voluntary, international multi-stakeholder partnership between industry and non-industry organisations that has a focus on reducing methane emissions across the natural gas supply chain, from production to final customer. As part of the WMS, Methane Guiding Principles Management Guideline will be developed and implemented at the Macedon facility (refer to Internal Context above, and key control measure).

Other requirements (includes laws, polices, standards and conventions):

Legislation and other requirements considered relevant for this aspect, and a demonstration of how these requirements are met, are described below.

Requirement Demonstration	Requirement Demonstration
Marine Order 97 Gives effect to Annex VI of MARPOL 73/78	The requirements of Marine Order 97 are incorporated into the key control measures.
National Greenhouse and Energy Reporting (NGER) scheme Annual GHG reporting for facilities	The requirements of NGER reporting scheme are incorporated into the key control measures.
National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015 Emission intensity for reservoir carbon from new gas fields	The requirements of NGER Safeguard Mechanism are incorporated into the key control measures.
National Pollutant Inventory (NPI) Reporting Annual air pollutant reporting	The requirements of annual NPI reporting are incorporated into the key control measures.
Conservation Management Plan for the Blue Whale 2015–2025 Management action A3.1: Continue to meet Australia’s international commitments to reduce greenhouse gas emissions and regulate the krill fishery in Antarctica Conservation Advice Balaenoptera borealis Sei Whale Conservation action: Continue to meet Australia’s international commitments to reduce greenhouse gas emissions and regulate the krill fishery in Antarctica Conservation Advice Balaenoptera physalus Fin Whale Conservation action: Continue to meet Australia’s international commitments to reduce greenhouse gas emissions and regulate the krill fishery in Antarctica Conservation Management Plan for the Southern Right Whale 2011–2021	As described above, the predicted atmospheric and GHG emissions from the Macedon facility are considered de minimis, with no link to climate change impacts on Australian or International receptors. Therefore, the Macedon facility is not considered to be inconsistent with the Conservation Management Plan for the Blue Whale 2015–2025 (CoA, 2015a), Conservation Advice for Sei Whale (TSSC 2015a), Conservation Advice for Fin Whale (TSSC, 2015b), Conservation Management Plan for the Southern Right Whale (DSEWPaC, 2012a), or the Recovery Plan for Marine Turtles in Australia (CoA, 2017).

³⁸ FCCC/PA/CMA/2023L.17 (Draft decision distributed 13 December 2023) First global stocktake text extracts https://unfccc.int/sites/default/files/resource/cma2023_L17_adv.pdf (Section II, Subsection A, Clause 28 (d))

³⁹ FCCC/PA/CMA/2023L.17 (Draft decision distributed 13 December 2023) First global stocktake text extracts https://unfccc.int/sites/default/files/resource/cma2023_L17_adv.pdf (Section II, Subsection A, Clause 29)

<p>Management action A4.1: Continue to meet Australia's international commitments to reduce greenhouse gas emissions and regulate the krill fishery in Antarctica</p> <p>Recovery Plan for Marine Turtles in Australia</p> <p>Management action A2.1: Continue to meet Australia's international commitments to address the causes of climate change</p>	
<p>Conservation Advice Rhincodon typus Whale Shark</p> <p>No specific strategies or actions identified</p> <p>Recovery Plan for the White Shark (Carcharodon carcharias)</p> <p>No specific strategies or actions identified</p> <p>Wildlife Conservation Plan for Seabirds</p> <p>No specific strategies or actions identified</p> <p>Wildlife Conservation Plan for Migratory Shorebirds</p> <p>No specific strategies or actions identified</p> <p>Marine bioregional plan for the North-west Marine Region</p> <p>No specific strategies or actions identified</p> <p>North-west Marine Parks Network Management Plan</p> <p>No specific zone rules identified</p>	<p>N/A</p>

Acceptability Statement: Greenhouse Gas Emissions

As per **Section 2.7.2** decision type B are acceptable if "ALARP", demonstrated using good industry practice and risk-based analysis, if legislative requirements are met and societal concerns are accounted for and the alternative control measures are grossly disproportionate to the benefit gained. In addition, acceptability is assessed against the above criteria. Further opportunities to reduce the impacts have been investigated (refer ALARP demonstration discussion). Indirect GHG emissions associated with the Macedon facility are managed to an acceptable level by meeting (where they exist) legislative requirements, industry codes and standards, applicable company requirements, and industry guidelines, and these have been adopted as key controls. The adopted controls are considered good oil-field practice/industry best practice and are consistent with Woodside's internal requirements. The potential impacts are considered acceptable if ALARP is demonstrated. As described above, the predicted GHG emissions associated with the Macedon facility are considered de minimis and as such, below the acceptable levels and will not materially or substantially contribute to Australia's net GHG emissions or net Global GHG emissions levels

EPOs, EPSs and MC			
<i>Environmental Performance Outcomes</i>	<i>Controls</i>	<i>Environmental Performance Standards</i>	<i>Measurement Criteria</i>
<p>EPO 8 No impact to air quality greater than a consequence level of Minor (1) from atmospheric</p>	<p>C 8.1 Contract vessels compliant with Marine Order 97 (Marine Pollution Prevention – Air Pollution).</p>	<p>PS 8.1 Vessels contracted whose practices comply with Marine Orders as applicable to vessel size, type and Class.</p>	<p>MC 8.1.1 Marine verification records.</p>

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EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
emissions during the Petroleum Activities Program	C 8.2 National Greenhouse and Energy Reporting Scheme and National Pollutant Inventory (NPI) reporting – estimation of greenhouse gas, energy and criteria pollutants	PS 8.2 Activity emissions reported annually in accordance with NGERs and NPI.	MC 8.2.1 NGERs and NPI reporting records.
	C 8.3 Contracting strategy and evaluation for hire of support vessels includes consideration of vessel emissions parameters and low carbon / alternative fuels	PS 8.3 Evaluation of tenders for support vessels considers emissions parameters	MC 8.3.1 Records demonstrate that emissions were considered in tender evaluations
	C 8.4 Vessels will hold a current International Air Pollution Prevention (IAPP) Certificate or equivalent.	PS 8.4 AMSA Marine Order – Part 97: Marine Pollution Prevention - Air Pollution: Vessels will hold a current International Air Pollution Prevention (IAPP) Certificate.	MC 8.4.1 Vessels hold a current IAPP Certificate
	C 8.5 The vessels will use marine-grade low sulphur diesel.	PS 8.5 Protection of the Sea (Prevention of Pollution from Ships) Act1983 – Part IIID: Only low sulphur diesel will be used.	MC 8.5.1 Bunker delivery notes indicate only low sulphur diesel is used.

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EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
<p>EPO 9 Actively support the global transition to a lower carbon future by compliance with relevant Corporate Woodside policies, including those designed to monitor market developments related to natural gas in the energy transition, and to support customers and suppliers to reduce their GHG emissions.</p>	<p>C 9.1 Implement a program to monitor market developments related to the contribution of natural gas in the energy transition.</p> <ul style="list-style-type: none"> Working with the natural gas value chain to reduce methane emissions in third party systems (e.g. regasification and distribution), such as through the adoption of the Methane Guiding Principles. Promoting the role of LNG in displacing higher carbon intensity fuels Supporting the development of new technologies to reduce higher carbon intensive energy sources Advocacy for stable policy frameworks that reduce carbon emissions. Monitoring the global energy outlook including the demand for lower carbon intensive energy such as LNG and displacing higher carbon intensive fuels. 	<p>PS 9.1 A program designed to support customers and suppliers reduce their emissions, monitor market developments, related to natural gas in the energy transition, and to support customers and suppliers to reduce their GHG emissions, is implemented.</p>	<p>MC 9.1 Progress of the program will be reported in climate-related disclosures, to industry standard, for example TCFD or equivalent.</p>

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6.6.7 Routine Light Emissions: Light Emissions from Vessel Operations

Context														
Subsea Support Vessels – Section 3.9							Biological Environment – Section 4.5							
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Light emissions from IMMR vessels.						✓		A	1 - Minor	-	-	LCS GP	Tolerable	EPO 10
Description of Source of Impact														
<p>Lighting is used to ensure a safe working environment to support 24-hour operations and to communicate the presence of subsea intervention vessels to other marine users (i.e., navigation lights). As lighting is required for the safe operation of the vessels it cannot reasonably be eliminated. External lighting is located all over vessels, with most external lighting directed towards working areas, such as the back deck. External lighting on vessels is typically 10-15 m above water.</p> <p>During IMMR activities, underwater lighting is generated over short periods of time while ROVs are in use, as well as from deck lighting. Given the typical intensity of ROV lights and the attenuation of light in seawater, light from ROVs will be localised to the vicinity of the ROV and vessels.</p> <p>Lighting from vessels may appear from direct unshielded light sources or through skyglow. Where direct light falls upon the ocean, this area of light is referred to as light spill. Skyglow is the diffuse glow caused by light that is screened from view, but through reflection and refraction creates a glow in the atmosphere. The distance at which direct light and skyglow may be visible from the source is dependent on the lighting on the vessel and environmental conditions.</p>														
Impact Assessment														
<p>Receptors that have important habitat present within a 20 km buffer of the Operational Area were considered as having potential for interaction, based on recommendations of the National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (Commonwealth of Australia, 2020) (NLPG). The 20 km threshold provides a precautionary limit based on observed effects of sky glow on marine turtle hatchlings (15 to 18 km) and fledgling seabirds grounded in response to artificial light 15 km away.</p> <p>Light emissions have the potential to disrupt ecological processes that rely on natural light for visual cues. Light emissions can affect fauna in two main ways:</p> <ul style="list-style-type: none"> • Behaviour - many organisms are adapted to natural levels of lighting and the natural changes associated with the day and night cycle as well as the phase of the moon. Artificial lighting has the potential to create a constant level of light at night that can override these natural levels and cycles. • Orientation - species such as marine turtles and birds may use lighting from natural sources to orient themselves in a certain direction at night. In instances where an artificial light source is brighter than a natural source, the artificial light may override natural cues, leading to disorientation. <p>The fauna within the Operational Area includes pelagic fish and zooplankton, as well as seabirds, marine turtles, whale sharks and large whales transiting through the area. Further, there is known critical habitat within the</p>														

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Operational Area for three EPBC listed marine turtle species (see **Section 4.6.2**), as well as BIAs for a variety of species that overlap the Operational Area and are listed in **Section 4.6**.

Seabirds

Artificial lighting can attract and disorient seabird species resulting in species behavioural changes (e.g. circling light sources or disrupted foraging), injury or mortality near the light source as a result of collision (Longcore and Rich, 2004; Gaston et al. 2014). There is no emergent land that could be used for roosting or nesting habitat in the Operational Area with the nearest suitable habitat approximately 8.7 km south, the Muiron Islands.

The most vulnerable life stages for seabirds and migratory shorebirds, for which artificial lighting may pose a threat are nesting adults or fledglings. Nesting or fledgling seabirds and migratory shorebirds are vulnerable to artificial lighting within 20 km of the nesting location (Commonwealth of Australia, 2020). For shearwater species, fledglings are predominantly impacted by onshore lighting sources, which can override sea finding cues and attract fledglings further inland, preventing them from reaching the sea (Mitkus et al., 2018; Telfer et al., 1987). Artificial light can also impact important behaviour of nesting adults (e.g. adult nest attendance, maintaining nest sites) or confuse shearwater species, resulting in injury or mortality as a result of birds colliding with structures (Cianchetti-Benedetti et al., 2018; Rodriguez et al., 2017). As there is no suitable habitat for roosting or nesting within the Operational Area, impacts to adult nesting or fledgling seabirds and migratory shorebirds are not expected. Artificial light from the Petroleum Activities Program is not predicted to disrupt critical breeding behaviours within important nesting habitat or displace seabirds from nesting habitat.

Marine Turtles

The Recovery Plan for Marine Turtles in Australia 2017-2027 (DCCEEW, 2017) outlines threats to the survival of marine turtles and includes light pollution. The Operational Area is within the internesting BIA and deemed Habitat Critical for the survival for the flatback, green, hawksbill and loggerhead turtle (**Table 4-7** and **Table 4-8**). The internesting period is the duration between each successive clutch during that season. The females remain close to rookeries or beaches, and therefore buffer zones are designated and defined immediately seaward from nesting beaches. Individuals present in the Operational Area may migrate and forage (during the internesting period).

The effect of artificial lighting on the behaviours of marine turtles is well documented, with the potential for disturbance to occur in adults during nesting. For nesting females, the presence of lighting (amongst other factors) is a key factor influencing site selection when laying clutches (Windle et al. 2018), preferring more dimly lit areas. Newly emerged hatchlings use light cues to find their way to the ocean. Once in the water the exact methods of navigation are unknown, but it is understood that hatchlings in the water are attracted to strong light sources. The nearest habitat suitable for nesting and hatchlings are the Muiron Islands which lie approximately 8.7 km south of the Operational Area.

Light emissions generated by the activity will be short-term and temporary, and likely to be from a single vessel during most standard IMMR campaigns. Subsequently, any impact to turtles will be limited to the duration of the IMMR activity, and only when operating within close proximity to the Muiron Islands i.e., along the pipeline route closest to the State waters boundary.

Further, individuals of other marine turtle species may migrate and forage in the Operational Area. Marine turtles do not use light cues to guide these behaviours (PENV 2020) and PENV (2000) found no evidence, published or anecdotal, to suggest that foraging or migrating turtles are impacted by light from offshore facilities and vessels. As such, light emissions from the vessels are unlikely to result in displacement of, or behavioural changes to individuals in these life stages (PENV 2020).

Fish

Lighting from the presence of a vessel may result in the localised aggregation of fish below the vessel. These aggregations of fish are considered localised and temporary and any long-term changes to fish species composition or abundance is considered highly unlikely. This localised increase in fish extends to those comprising the whale shark's diet. However, given that a large proportion of the diet comprises krill and other planktonic larvae, it is unlikely that a light source will lead to a significant increase in whale shark abundance in the vicinity of the vessels. Similarly, any localised impacts to marine fish are not expected to impact commercial fishers in the area. No significant cumulative impacts over the life of the Petroleum Activities Program or in relation to other operations and activities in the region (e.g., Pyrenees, Ngujima-Yin) are expected.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)⁴⁰	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation, Codes and Standards				
Compliance with the project's Ministerial Conditions on EPBC Referral No. 2008/4605: "During night time operations external lighting on all vessels will be minimised to that required for safety of navigation and safety of deck operations".	F: Yes CS: Standard practice. Minimal cost.	Light reduced to only provide necessary lighting for safety and navigational purposes, reducing the potential impacts to fauna.	Controls based on legislative requirement must be accepted. Benefits outweigh any cost sacrifice.	Yes C 10.1
Good Practice				
No use of external lighting during Petroleum Activities Program.	F: No. Light management will be consistent with that required to provide a safe working environment onboard vessel. CS: Not considered – control not feasible.	Not considered – control not feasible.	Not considered – control not feasible.	No
Implement a Seabird Management Plan that includes: <ul style="list-style-type: none"> Standardisation and maintenance of record keeping and reporting of seabird interactions. Procedures on seabird intervention, care and management Regulatory reporting requirements for seabirds (unintentional death of or injury to seabirds that constitute MNES). 	F: Yes. CS: Minimal.	Potential for slight reduction in the likelihood of seabird attraction to vessels and facility resulting in a reduced likelihood of bird strikes.	Potential benefits outweigh cost sacrifice.	Yes C 10.2
Professional Judgement – Eliminate				
None identified.				

⁴⁰ Qualitative measure

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)⁴⁰	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Professional Judgement – Substitute				
None identified.				
Professional Judgement – Engineered Solution				
None identified.				
ALARP Statement:				
On the basis of the environmental impact assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the potential impacts from routine light emissions from Macedon IMMR vessels to be ALARP. As no reasonable additional/ alternative controls were identified that would further reduce the impacts without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of Acceptability
Acceptability Statement:
The impact assessment has determined that, in its current state, operational light emissions from Macedon IMMR vessels represent a negligible disturbance to fauna within the Operational Area.
Further opportunities to reduce the impacts have been investigated above. The potential impacts are consistent with good oil-field practice/industry best practice and are considered to be broadly acceptable in its current state. Therefore, Woodside considers standard operations appropriate to manage the impacts of light emissions to a level that is broadly acceptable.

EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
EPO 10 Undertake the Petroleum Activities Program in a manner that will prevent substantial adverse effects to marine fauna.	C 10.1 Compliance with the project's Ministerial Conditions on EPBC Referral No. 2008/4605: "During night-time operations external lighting on all vessels will be minimised to that required for safety of navigation and safety of deck operations".	PS 10.1 External lighting on all vessels will be minimised to levels necessary for safety of navigation and safety of deck operations.	MC 10.1.1 Documentation of HSE audit, which includes review of external lighting.

EPOs, EPSs and MC			
	<p>C 10.2 Implement a Seabird Management Plan</p>	<p>PS 10.2 Implementation of the Seabird Management Plan Including:</p> <ul style="list-style-type: none"> • minimise potential for light attraction. • Standardise and maintain record keeping and reporting of seabird interactions. • Provide procedures on seabird intervention, care and management. • Regulatory reporting requirements of seabird (unintentional death of or injury to seabirds that constitute MNES) 	<p>MC 10.2.1 Records demonstrate Seabird Management Plan implemented.</p>

6.7 Unplanned Activities (Accidents, Incidents, Emergency Situations)

6.7.1 Quantitative Spill Risk Assessment Methodology

Quantitative hydrocarbon spill modelling was undertaken by RPS, on behalf of Woodside, using a three-dimensional (3D) hydrocarbon spill trajectory and weathering model, Spill Impact Mapping and Analysis Program (SIMAP), which is designed to simulate the transport, spreading and weathering of specific hydrocarbon types under the influence of changing meteorological and oceanographic forces.

A stochastic modelling scheme was followed in this study, whereby SIMAP was applied to repeatedly simulate the defined credible spill scenarios using different samples of current and wind data. These data samples were selected randomly from an historic time-series of wind and current data representative of the study area. Results of the replicate simulations were then statistically analysed and mapped to define contours of percentage probability of contact at identified thresholds around the hydrocarbon release point.

The model simulates surface releases and uses the unique physical and chemical properties of a hydrocarbon type to calculate rates of evaporation and viscosity change, including the tendency to form OIW emulsions. Moreover, the unique transport and dispersion of surface slicks and in-water components (entrained and dissolved) are modelled separately. Thus, the model can be used to understand the wider potential consequences of a spill, including direct contact of hydrocarbons due to surface slicks (floating hydrocarbon) and exposure of organisms to entrained and dissolved aromatic hydrocarbons in the water column.

During each simulation, the SIMAP model records the location (by latitude, longitude and depth) of each of the particles (representing a given mass of hydrocarbons) on or in the water column, at regular time steps. For any particles that contact a shoreline, the model records the accumulation of hydrocarbon mass that arrives on each section of shoreline over time, less any mass that is lost to evaporation and/or subsequent removal by current and wind forces.

The collective records from all simulations are then analysed by dividing the study region into a 3D grid. For surface hydrocarbons (floating oil), the sum of the mass in all hydrocarbon particles located within a grid cell, divided by the area of the cell, provides hydrocarbon concentration estimates in that grid cell at each model output time interval. For entrained and dissolved aromatic hydrocarbon particles, concentrations are calculated at each time step by summing the mass of particles within a grid cell and dividing by the volume of the grid cell. The process is also subject to the application of spreading filters that represent the expected mass distribution of each distinct particle. The concentrations of hydrocarbons calculated for each grid cell, at each time step, are then analysed to determine whether concentration estimates exceed defined threshold concentrations.

All hydrocarbon spill modelling assessments undertaken by RPS undergo initial sensitivity modelling to determine appropriate time to add to the simulation after the cessation of the spill. The amount of time following the spill is based on the time required for the modelled concentrations to practically drop below threshold concentrations anywhere in the model domain in the test cases. This assessment is done by post-processing the sensitivity test results and analysing time-series of median and maximum concentrations in the water and on the surface.

6.7.1.1 Hydrocarbon Characteristics – Marine diesel oil

Marine diesel oil (MDO) is the hydrocarbon involved in the worst-case credible spill scenario for the Petroleum Activities Program. The characteristics of MDO are as follows:

Marine diesel is a mixture of volatile and persistent hydrocarbons with low proportions of highly volatile and residual components. In general, about 6% of the oil mass should evaporate within the first 12 hours (boiling point < 180°C); a further 35% should evaporate within the first 24 hours (180°C

< boiling point < 265°C); and a further 54% should evaporate over several days (265°C < boiling point < 380°C). About 5% of the oil is shown to be persistent. The aromatic content of the oil is about 3%.

The mass balance forecast for the constant-wind case for marine diesel shows that about 41% of the oil is predicted to evaporate within 24 hours. Under these calm conditions the majority of the remaining oil on the water surface weathers at a slower rate due to comprising the longer-chain compounds with higher boiling points. Evaporation of the residual compounds slows significantly and is then subject to more gradual decay through biological and photochemical processes.

Under the more realistic variable-wind case Figure 6-1, where the winds are of greater strength, entrainment of marine diesel into the water column is indicated to be significant. About 24 hours after the spill, around 72% of the oil mass is forecast to have entrained and a further 24% is forecast to have evaporated, leaving only a small proportion of the oil floating on the water surface (<1%). The residual compounds tend to remain entrained beneath the surface under conditions that generate wind waves (about >6 m/s).

The increased level of entrainment in the variable-wind case results in a higher percentage of biological and photochemical degradation, where the decay of the floating slicks and oil droplets in the water column occurs at an approximate rate of 2.4% per day with an accumulated total of ~16% after seven days, in comparison to a rate of ~0.2% per day and an accumulated total of 1.3% after seven days in the constant-wind case. Given the large proportion of entrained oil and the tendency for it to remain mixed in the water column, the remaining hydrocarbons decay and/or evaporate over time scales of several weeks to a few months. This long weathering duration extends the area of potential effect.

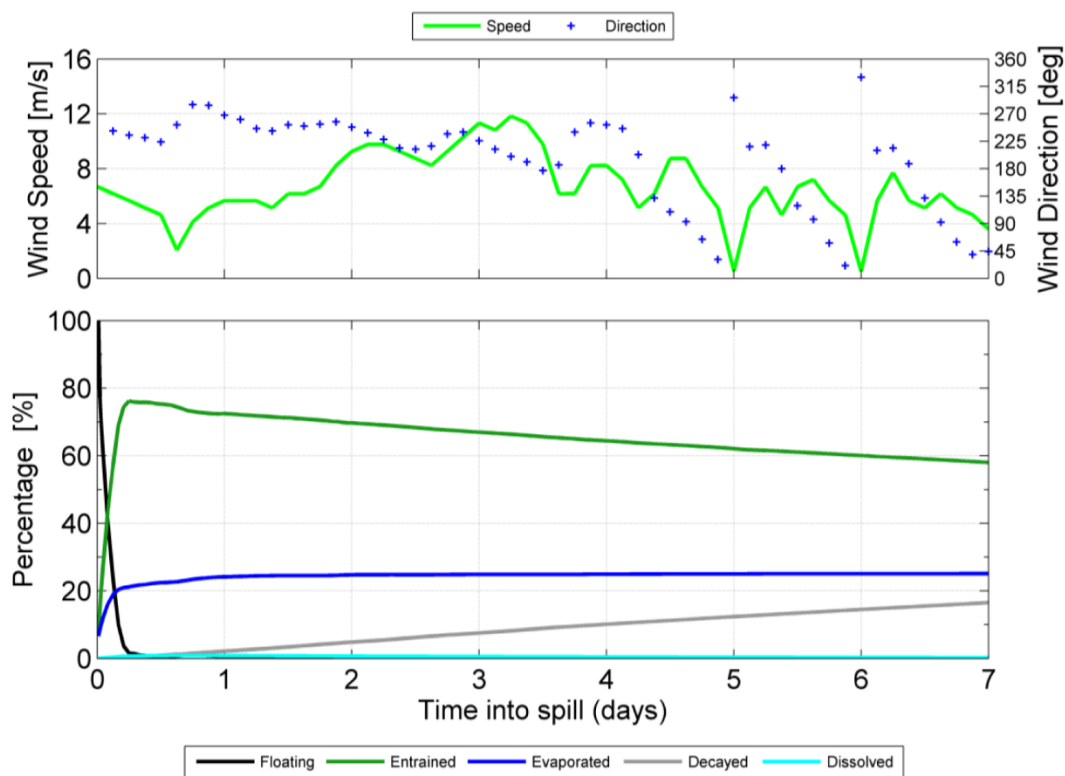


Figure 6-1: Proportional mass balance plot representing the weathering of marine diesel spilled onto the water surface as a one-off release (50 m³ over one hour) and subject to variable wind at 27°C water temperature and 25°C air temperature.

6.7.1.2 Environment that May Be Affected and Hydrocarbon Contact Thresholds

The outputs of the quantitative hydrocarbon spill modelling are used to assess the environmental consequence by delineating which areas of the marine environment could be exposed to hydrocarbon levels exceeding selected hydrocarbon threshold concentrations if a credible hydrocarbon spill scenario occurred. The summary of the locations where hydrocarbon thresholds could be exceeded by any of the simulations modelled is defined as the “environment that may be affected” (EMBA). The EMBA covers a larger area than the area that is likely to be affected during any single spill event, as the model was run for a variety of weather and metocean conditions, and the EMBA represents the total extent of all the locations where hydrocarbon thresholds could be exceeded from all modelling runs.

As the weathering of different fates of hydrocarbons (surface, entrained and dissolved) differs due to the influence of the metocean mechanism of transportation, a different EMBA is presented for each hydrocarbon fate. Together, these EMBA's have defined the spatial extent for the existing environment described in **Section 4**.

The spill modelling outputs are presented as areas that meet threshold concentrations for surface, entrained and dissolved hydrocarbons for the modelled scenarios. Surface spill concentrations are expressed as grams per square metre (g/m²), with entrained and dissolved aromatic hydrocarbon concentrations expressed as parts per billion (ppb). A conservative approach to selecting thresholds was taken by adopting the guideline impact thresholds (NOPSEMA, 2019) for surface, entrained, dissolved and accumulated hydrocarbons to define the EMBA for condensate spills from a loss of well control and loss of marine diesel. An additional threshold has been included to define the boundary within which socio-cultural impacts may occur, based on visible surface oil (1 g/m²)

impacting on the visual amenity of the marine environment and is described below. Each of these hydrocarbon thresholds are presented in Table 6-5.

Table 6-5: Summary of Thresholds Applied to the Quantitative Hydrocarbon spill Risk Modelling Results

Hydrocarbon Type	EMBA				Socio-cultural EMBA
	Surface Hydrocarbon (g/m ²)	Dissolved Hydrocarbon (ppb)	Entrained Hydrocarbon (ppb)	Accumulated Hydrocarbon (g/m ²)	Surface hydrocarbon (g/m ²)
Condensate	10	50	100	100	1
Marine diesel	10	50	100	100	1

Scientific Monitoring

A planning area for scientific monitoring is also described in **Section 5.8** of the Oil Spill Preparedness and Response Mitigation Assessment (Appendix H). This planning area has been set with reference to the low exposure entrained value of 10 ppb detailed in the NOPSEMA (2019) bulletin Oil Spill Modelling.

A scientific monitoring program may be activated following a Level 2 or 3 unplanned hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors. This would consider receptors at risk (ecological and socio-cultural) for the entire EMBA and in particular, any identified Pre-emptive Baseline Areas (PBAs) for the worst-case credible spill scenario or other identified unplanned hydrocarbon releases associated with the operational activities.

6.7.2 Unplanned Hydrocarbon Release: Vessel collision

Context														
Subsea Support Vessels – Section 3.9	Physical Environment – Section 4.4 Biological Environment – Section 4.5 Protected Places – Section 4.8 Socio-cultural – Section 4.9							Consultation – Appendix F						
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Loss of marine diesel from a subsea support vessel		✓	✓	✓	✓	✓	✓	B	3 - Substantial	Highly Unlikely	3	LCS RBA	Tolerable	EPO 11
Description of Source of Risk														
<p>Source of risk</p> <p>MGO (diesel) is stored onboard vessels as a fuel for vessel engines and generators. There will be no bunkering in the offshore Operations Area during operations and so the potential for significant release of hydrocarbons to the marine environment is limited to a loss of bulk storage on a vessel as a result of a collision. The maximum volume likely to be released from a single tank rupture on a typical IMMR vessel is approximately 125 m³. This volume has been modelled by RPS (2023) using the three-dimensional model SIMAP. The modelling is considered conservative since vessel tanks are typically filled to less than 90% capacity, therefore the maximum volume likely to be released from a typical single IMMR vessel tank rupture is approximately 100 m³.</p> <p>Hydrocarbon Characteristics</p> <p>Diesel fuel is a light petroleum distillate and properties may vary depending on their origin and particular additives, but are generally comprised of moderate concentrations of benzene, toluene, ethylene and xylene (BTEX) and low concentrations of polycyclic aromatic hydrocarbons (PAHs) of low molecular weight (e.g. naphthalene, fluorene and phenanthrene). The specific gravity of diesel ranges from 0.84 to 0.88 g/cm³ (30 to 32 API) and the pour point varies between -17°C and -30°C. Diesel fuels have a low viscosity of approximately 13c St (at 20°C) and are categorised, using the International Tanker Owners Pollution Federation methods, as light persistent oils.</p> <p>The modelling included a series of weather tests to illustrate the potential behaviour of diesel when exposed to idealised and representative environmental conditions. The two model tests were under calm wind conditions (constant 5 knots) and under variable weather conditions (4-19 knots), both assuming low seasonal water temperature (27°C) and average air temperature (25°C).</p> <p>The mass balance forecast for the constant-wind case (Figure 6-2) for diesel shows that approximately 41% of the oil is predicted to evaporate within 24 hours (RPS, 2023). Under these calm conditions, most of the remaining oil on the water surface will weather at a slower rate due to being comprised of the longer-chain compounds with higher boiling points. Evaporation of the residual compounds will slow significantly, and they will then be subject to more gradual decay through biological and photochemical processes.</p>														

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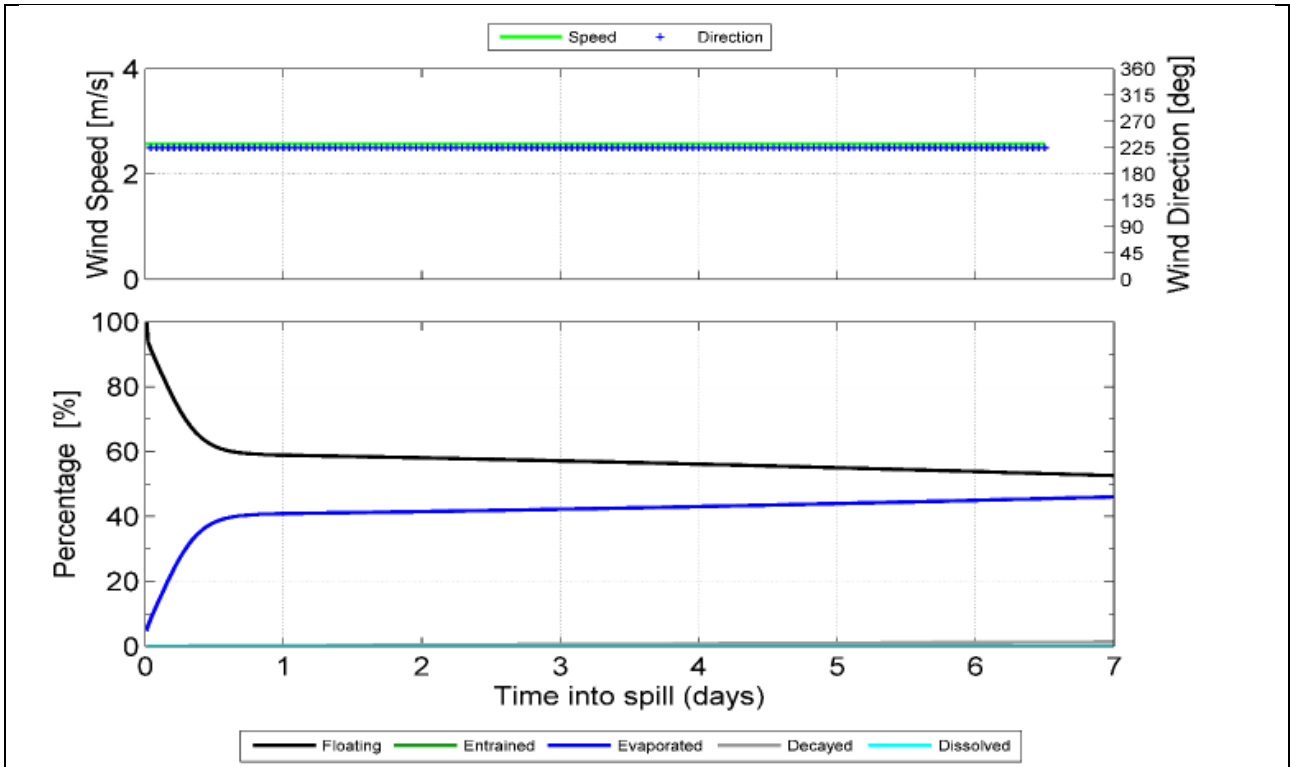


Figure 6-2 Proportional mass balance plot representing the weathering of Marine Diesel spilled onto the water surface as a one-off release (50 m³) and subject to a constant 5 kn (2.6 m/s) wind at 27°C water temperature and 25°C air temperature.

Under the variable-wind case (Figure 6-3), where the winds are of greater strength, entrainment of diesel into the water column is indicated to be significant. Approximately 24 hours after the spill, around 72% of the oil mass is forecast to have entrained and a further 24% is forecast to have evaporated, leaving only a small proportion of the oil floating on the water surface (<1%). The residual compounds will tend to remain entrained beneath the surface under conditions that generate wind waves (approximately > 6 m/s).

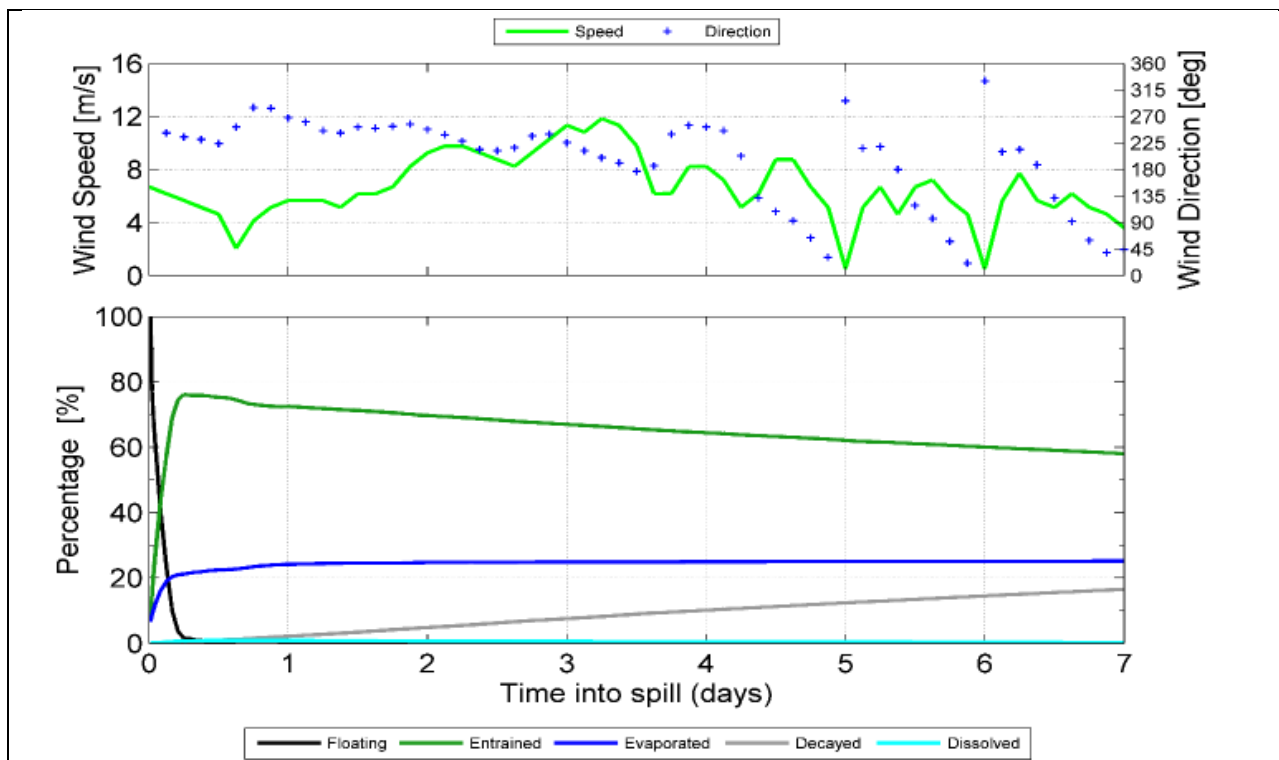


Figure 6-3 Proportional mass balance plot representing the weathering of Marine Diesel spilled onto the water surface as a one-off release (50 m³) and subject to variable wind at 27°C water temperature and 25°C air temperature.

The increased level of entrainment in the variable-wind case will result in a higher percentage of biological and photochemical degradation, where the decay of the floating slicks and oil droplets in the water column occurs at an approximate rate of 2.4% per day with an accumulated total of ~16% after 7 days, in comparison to a rate of ~0.2% per day and an accumulated total of 1.3% after 7 days in the constant-wind case. Given the large proportion of entrained oil and the tendency for it to remain mixed in the water column, the remaining hydrocarbons will decay and/or evaporate over time scales of several weeks to a few months. This long weathering duration will extend the area of potential effect, requiring the break-up and dispersion of the slicks and droplets to reduce concentrations below the thresholds considered in this study (RPS, 2023).

If diesel is spilled to sea, the more volatile BTEX components will evaporate or breakdown rapidly leaving behind the PAH components, which evaporate or breakdown more slowly over several days. For the environmental conditions experienced at the offshore operations area, diesel is expected to undergo rapid spreading and this, together with evaporative loss, will result in a relatively rapid slick break up.

Consequence Assessment

Environment that May Be Affected for the credible worst-case diesel spill from a vessel (125 m³)

The BTEX components in diesel are the main source of toxicity to marine organisms and hence it is generally observed that the toxicity of spilled diesel decreases as the diesel weathers; decreasing from about 8 to 12 ppm for fresh diesel (Neff et al., 2000). A spill of diesel will have an immediate acute impact on the water column biota in the vicinity of the spill origin. Given the water depth throughout the Operational Area (~60-180 m), a surface spill of diesel is not predicted to impact on the seafloor benthos.

Based on literature reviews of oil effects on aquatic birds and marine mammals by Engelhardt (1983), Clark (1984), Geraci and St. Aubin (1988), and Jenssen (1994), the threshold thickness with the potential for lethal impacts to wildlife (megafauna) is 10 µm (≈10 g/m²). Therefore, the threshold of 10 g/m² has been selected for determining the EMBA for diesel. This is considered reasonable, and conservative given the low viscosity of the oil and the low toxicity of the oil.

Stochastic modelling for a spill in the Operational Area (RPS, 2023) predicted that under both metocean conditions (calm and variable) the majority of surface spilled hydrocarbons would most likely be observed in the close proximity of the release location. The modelling results when under calm wind condition predicted approximately 41% evaporating within 24 hours, and no entrainment to occur. Under the variable-wind conditions approximately 72% of the hydrocarbons are predicted to entrain, and 24% to evaporate, within the initial 24 hours, with only a very small residual amount remaining.

The potential EMBA from an unplanned hydrocarbon release (from vessel collision) of 6.5 km centred on the pipeline alignment that was used (**Section 4.1**), therefore provides a conservative EMBA for potential spill scenarios. The potential sensitive receptors present in the immediate area of the diesel spill will include fish and marine mammals, marine reptiles and seabirds at the sea surface that become coated in diesel or through ingestion. The impact on these sensitive receptors is likely to be negligible and is likely to be limited to a small number of transient individuals, given the distance from the nearest shoreline (12 km is the minimum distance from the expected spill at 10 µm threshold) and as there are no important areas of habitat present in the immediate vicinity. The potential impacts to the key values and sensitivities in the EMBA is described in the following.

Potential Impacts to Key Species and Ecological Systems

Marine Mammals

Whales and dolphins surface to breathe air. They are therefore theoretically vulnerable to exposure to hydrocarbon spill impacts caused by intersecting an area of diesel slick on the sea surface. Whales and dolphins are smooth-skinned, hairless mammals so diesel tends not to stick to their skin and since they do not rely on fur for insulation, they will not be sensitive to the physical effects of exposure to diesel.

Small doses of diesel may cause acute fatal pneumonia in mammals when aspirated. Studies on effects of petroleum vapours on terrestrial mammals and seals showed (in cases of prolonged exposures and high concentrations) absorption of hydrocarbons in organs and other tissues, and damage to the brain and central nervous system (AMSA, 2013). However short-term inhalation of petroleum vapours at concentrations similar to those found in oceanic diesel spills, may not be necessarily detrimental either in terms of structural tissue damage or in terms of respiratory gas exchange.

Ingested hydrocarbons, particularly the lighter fractions, can be toxic to marine mammals. Ingested diesel can remain within the gastro-intestinal tract and be absorbed into the bloodstream and thus irritate and/or destroy epithelial cells in the stomach and intestine.

The way whales and dolphins consume their food may well affect the likelihood of their ingesting diesel. Baleen whales, which skim the surface, are more likely to ingest diesel than toothed whales, which are 'gulp feeders'. Spilled diesel may also foul the baleen fibres of baleen whales, thereby impairing food-gathering efficiency or resulting in the ingestion of diesel or diesel-contaminated prey. Baleen whales may therefore be vulnerable to diesel if feeding. It should be noted that adult humpback whales, which are seasonally present and relatively abundant in the region, are not thought to be feeding during their migration through the region.

Data captured during the Deepwater Horizon oil spill response efforts showed that bottlenose dolphins, a species known to occur within the EMBA, were subject to adrenal gland disease and dysfunction as a result of the oil spill (Deepwater Horizon Natural Resource Damage Assessment Trustee, 2016).

The strong attraction to specific areas for breeding, feeding or resting may result in individuals coming into contact with hydrocarbons. The nearest such area is Exmouth Gulf, which is used as a resting area by humpback whales during the southern migration and a reproduction area by the Southern Right Whale. Modelling of diesel spill trajectories has indicated diesel would not enter the Gulf.

No information is available regarding the susceptibility or sensitivity of dugongs to diesel spills. Dugongs that come into contact with floating hydrocarbons as they come to the surface to breathe would be at risk from direct contact potentially causing skin lesions and irritation of mucous membranes (such as those in the nose, throat and eyes).

Marine Reptiles

Turtles: There is little documented evidence of the effect of diesel on turtles. Should turtles make contact with a spill, the impact is likely to include oiling of the body as well as irritations caused by contact with eyes, nasal and other body cavities and possibly ingestion or inhalation of toxic vapours (Jones, 1986). Within the EMBA turtles may be exposed to diesel, in the event of a large spill occurring, through contact with a surface slick. This can lead to the following problems for turtles (AMSA, 1998):

- Digestion/absorption of diesel through food contamination or direct physical contact, leading to damage to the digestive tract and other organs; and
- Irritation of mucous membranes (such as those in the nose, throat and eyes) leading to inflammation and infection.

Turtles are vulnerable at beach nesting sites during the breeding season (September to March for green and loggerheads and July to March for hawksbill turtles). However, areas where IMMR activities may occur are further from nesting beaches than the maximum distance trajectory analysis indicates surface hydrocarbons above impact threshold levels are expected to travel.

The very short duration of activities and the remote likelihood of a large spill occurring reduces the risk of impacts to turtle's populations in the region.

No information is available regarding the susceptibility or sensitivity of sea snakes to diesel spills. Sea snakes' surface to breathe air and may be vulnerable to diesel spill impacts.

Fish

The toxicity of dissolved hydrocarbons and dispersed diesel to fish species has been the subject of a large number of laboratory studies. However, fish mortalities are rarely observed to occur as a result of diesel spills. This has generally been attributed to the possibility that pelagic fish are able to detect and avoid waters underneath diesel spills by swimming away from the affected area. Where fish mortalities have been recorded, the spills have occurred in sheltered bays.

It is not known whether whale sharks would be able to detect and avoid diesel slicks as has been shown for other fish species. Whale sharks occasionally feed on plankton near or on the water surface and it is possible that they may come into direct contact with diesel, or even ingest diesel if a large-scale spill occurred when they are seasonally present.

Seabirds

Birds which congregate in large numbers on the sea or shorelines to breed, feed or moult are particularly vulnerable to hydrocarbon pollution. A seabird's immediate response to oiling is to preen itself. It has been shown that seabirds are able to preen themselves to remove small amounts of adhered hydrocarbon (Birkhead et al., 1973). But, as it preens at its feathers, the bird also inhales or swallows toxic compounds that may damage its liver, lungs, kidneys, intestines, and other internal organs causing lethal or sub-lethal effects (Piatt et al., 1990). The effect of diesel on the different life stages of seabirds has been the subject of several studies. Diesel ingested by nesting birds may reduce the fertility of eggs that are laid (Grau et al., 1977).

Within the EMBA seabirds may be exposed to diesel, in the event of a diesel spill occurring, through feeding or contact with diesel adhered to other surfaces. Many seabirds found in the EMBA feed by picking or snatching prey from, at or near the water surface (for example frigate birds, noddies) or while paddling on the water (wedge-tailed shearwaters and petrels are examples) and in doing so can contact diesel on the sea surface. Accounts of seabird mortalities from spill events indicate that seabirds with these types of feeding habits are the most likely to be severely affected.

The potential exists for mortalities of seabirds in the event of a large (100 m³) diesel spill occurring. The species with highest potential to be impacted are those that feed at sea near or on the water surface. Several of these species notably; the wedge-tailed shearwater and petrels have relatively long fledgling periods, low rates of reproduction and are under stress from loss of habitat in other parts of their migratory range. Consequently, impacts from a diesel spill event on local populations of these seabirds is possible but limited by the relatively small extent of the EMBA (2 km) and the rapid degradation and hence toxicity of diesel with 24 – 48 hours.

Ecosystems

Plankton and Pelagic Ecosystem Processes: the effects of hydrocarbons on plankton have been well studied in controlled laboratory and field situations. The different life stages of a species often show widely different tolerances and reactions to diesel pollution. Usually the eggs, larval and juvenile stages will be more susceptible than the adults.

Post-spill studies on plankton populations are few, but those that have been done have shown either no effects or temporary minor effects (Kunhold, 1978). The prime reason put forward to explain the lack of observed effects is that many marine species produce very large numbers of eggs and larval stages to overcome natural losses (such as through predation by other animals; adverse hydrographical and climatic conditions; or failure to find a suitable habitat and adequate food). Therefore, it is unlikely that any localised losses of eggs or larvae caused by a single diesel spill event in the open ocean, such as from the proposed activities, would have a discernible effect on the size or health of future adult populations in the area.

A possible exception to this would be if the diesel spill slick were to coincide with, and be transported to, a mass synchronous spawning event, such as that which is known to occur for corals over a four to five-day period in March/April (Simpson, 1985). Recently spawned gametes and larvae would be especially exposed to diesel spill effects since they are generally positively buoyant and would be exposed to surface slicks. The potential impact of this exposure is likely to be mitigated by the very low likelihood of a large spill; a) occurring and b) reaching the nearshore waters containing coral reefs where spawn would occur in significant density.

Fringing Reef Ecosystem: Experimental studies and field observations have found all species of corals to be sensitive to the effects of hydrocarbons although there are considerable differences in the degree of tolerance between species (Jackson et al. 1989). The effect of diesel on corals range from short or long-term sub-lethal effects to irreversible tissue necrosis and death. The timing of a diesel spill event in relation to other environmental stresses, such as ambient temperature, or reproductive stage could also have significance in that corals are likely to be more sensitive to diesel spill events at times of physiological stress. The potential impact of this exposure is mitigated by the very low likelihood of a large spill; a) occurring and b) reaching the nearshore waters where coral reefs occur.

Macroalgae: The effect of hydrocarbons on algae is largely dependent on the degree of direct exposure and how much of the hydrocarbon adheres to the algae. The morphological features of the algae, such as the presence of a mucilage layer or the presence of fine 'hairs' will influence the amount of hydrocarbon that will adhere to the algae. A review of field studies conducted after spill events by Connell and Miller (1981) indicated a high degree of variability in level of impact, but in all instances the algae appeared to be able to recover rapidly from even very heavy oiling. They attributed the rapid recovery of algae to the fact that for most algae new growth is produced from near the base of the plant while the distal parts (which would be exposed to the diesel contamination) are continually lost. The potential

impact of diesel exposure is mitigated by the very low likelihood of a large spill; a) occurring and b) dispersing into the waters where macroalgae occur.

Potential Effect on Key Ecological Features

A change in habitat may occur due to a change in water or sediment quality that could impact KEFs. The Operational Area overlaps with the intersects with the Ancient Coastline at 125 m Depth Contour and Canyons linking the Cuvier Abyssal Plain and a further 3 KEFs have the potential to intersect with an unplanned release of hydrocarbons.

The values and sensitivities of these KEFs relate to seafloor features, and demersal fish species (i.e. that live close to the seafloor). Therefore, water depth can determine whether any in-water hydrocarbons can potentially interact with these values and sensitivities. As MDO typically remains in the top ~20 m of the water column and rapidly weathers, there is no potential for in-water hydrocarbons to intersect with the seafloor and demersal values.

Key ecological features (KEFs) that may be affected in the unlikely event of a worst-possible case spill scenario are:

Continental Slope demersal fish communities

Demersal fish live and feed on or near seabed. The Commonwealth Marine Environment Report Card notes that the demersal fish species occupy two distinct demersal community types (biomes) associated with the upper slope (water depth of 225 to 500 metres) and the mid-slope (750 to 1,000 metres).

Commonwealth waters adjacent to Ningaloo Reef

The predicted trajectory and fate in the unlikely event of a worst-possible case release (without any mitigation measures) indicates that Commonwealth waters within the Ningaloo Marine Park (NMP) would not be exposed to the surface spill resulting from a vessel tank rupture. On this basis, a worst-possible case release of diesel is not predicted to have any effects on environmental assets within the NMP.

The potential impact to seabirds and marine biota that intercept the surface, such as marine mammals, is discussed in the preceding Sections.

Exmouth Plateau and Ancient Coastline at 125 m Depth Contour

The predicted trajectory and fate of hydrocarbons in the unlikely event of a large diesel spill within State waters suggests contact with the seabed of the Exmouth Plateau or the ancient coastline at 125 m depth contour is not expected.

Canyons linking the Cuvier Abyssal Plain

The seafloor features of this KEF may promote enhanced upwelling and associated productivity.

Potential Effect on Socio-economic Factors

Tourism

Tourism would likely be adversely affected if a visible surface slick entered areas of tourism activity. However, the offshore operations area and immediate surrounds, including the EMBA indicated by spill modelling, does not have the tourism attractions of areas closer to Exmouth or along the Ningaloo coast. The very short persistence of diesel on the surface following a spill would mitigate potential impacts.

Fisheries

It is possible that commercial and recreational fishing activities may be hampered if fisheries are restricted from entry to an affected area, however the area potentially affected represents a very small part of available fishery zones and the short duration that diesel would persist limits the potential for significant impacts.

Shipping

The impact on shipping in the event of 125 m³ diesel spill is likely to be limited to the potential for minor modification of shipping routes to avoid the spill. Shipping operations may be affected by spill response efforts by way of a 'Notice to Mariners' being issued to avoid the area, leading to the potential diversion from normal shipping routes.

Petroleum Activities

In the event of large diesel spill petroleum production operations in the region would likely remain unaffected unless a surface slick was within near vicinity and considered to represent a safety hazard at which time the likely response would be to temporarily cease production activities. There are no petroleum operations within the spill EMBA that would likely be affected.

Consequence Assessment Summary

A summary of the range of environmental receptors that may be impacted from a credible worst-case hydrocarbon spill scenario of 125 m³ diesel from a vessel collision is presented in Table 6-6, as identified by the stochastic spill modelling studies.

Table 6-6: Environment that May Be Affected – Key receptor locations / sensitivities that are predicted to be contacted by an instantaneous release of marine diesel

Environmental Setting		Environmental, Social, Cultural, Heritage and Economic Aspects presented as per the Environmental Risk Definitions (Woodside's Risk Management Procedure)																								Probability of hydrocarbon contact and fate (%)									
		Physical		Biological																	Socio-cultural and Cultural														
		Water Quality	Sediment Quality	Marine Primary Producers	Other Communities / Habitats							Protected Species										Other Species						Socio-cultural EMBA	EMBA						
Open Water (Pristine)	Marine Sediment (Pristine)	Coral Reef	Seagrass Beds / Macroalgae	Mangroves	Spawning / Nursery Areas	Open water – Productivity / Upwelling	Non-biogenic Reefs	Offshore Filter feeders and / or Deepwater Benthic Communities	Nearshore Filter Feeders	Sandy Shores	Estuaries / Tributaries / Creeks / Lagoons (including mudflats)	Rocky Shores	Cetaceans – Migratory Whales	Cetaceans – Dolphins and Porpoises	Dugongs	Pinnipeds (Sea Lions / Fur Seals)	Marine Turtles (Foraging and Interesting Areas and Significant Nesting Beaches)	Sea Snakes	Whale Sharks	Sharks and Rays	Seabirds and Migratory Shorebirds	Pelagic Fish Populations	Demersal Fish Populations	Fisheries - Commercial	Fisheries - Traditional	Tourism and Recreation	Protected Areas / Heritage – European and Indigenous / Underwater Cultural Heritage	Offshore Oil and Gas Infrastructure (topside and subsea)	Surface Hydrocarbons (1 – 10 g/m ²)	Accumulated hydrocarbons (10-100 g/m ²)	Surface Hydrocarbons (≥10 g/m)	Entrained Hydrocarbons(≥100 ppb)	Dissolved Hydrocarbons (≥50 ppb)	Accumulated Hydrocarbons (> 100 g/m ²)	
Offshore ⁴¹	Montebello AMP	✓	✓	✓	✓	✓	✓			✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓					1			
	Gascoyne AMP	✓	✓										✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓				16	1.5		
	Ningaloo MP	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓				16.5	2			
Submerged Reefs	Ningaloo Reef	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓				1.5				
	North West Reef	✓	✓	✓			✓	✓					✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓					1				
Islands	Barrow Is	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓			0.5				
	Barrow Is MMA	✓	✓	✓	✓	✓	✓			✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓			0.5				

⁴¹ Note: hydrocarbons cannot accumulate on open ocean, submerged receptors, or receptors not fully emergent

Environmental Setting	Receptor	Environmental, Social, Cultural, Heritage and Economic Aspects presented as per the Environmental Risk Definitions (Woodside's Risk Management Procedure)																							Probability of hydrocarbon contact and fate (%)																
		Physical		Biological																			Socio-cultural and Cultural		Socio-cultural EMBA		EMBA														
		Water Quality	Sediment Quality	Marine Primary Producers	Other Communities / Habitats						Protected Species													Other Species				Socio-cultural EMBA	EMBA												
		Open Water (Pristine)	Marine Sediment (Pristine)	Coral Reef	Seagrass Beds / Macroalgae	Mangroves	Spawning / Nursery Areas	Open water – Productivity / Upwelling	Non-biogenic Reefs	Offshore Filter feeders and / or Deepwater Benthic Communities	Nearshore Filter Feeders	Sandy Shores	Estuaries / Tributaries / Creeks / Lagoons (including mudflats)	Rocky Shores	Cetaceans – Migratory Whales	Cetaceans – Dolphins and Porpoises	Dugongs	Pinnipeds (Sea Lions / Fur Seals)	Marine Turtles (Foraging and Interesting Areas and Significant Nesting Beaches)	Sea Snakes	Whale Sharks	Sharks and Rays	Seabirds and Migratory Shorebirds	Pelagic Fish Populations	Demersal Fish Populations	Fisheries - Commercial	Fisheries - Traditional	Tourism and Recreation	Protected Areas / Heritage – European and Indigenous / Underwater Cultural Heritage	Offshore Oil and Gas Infrastructure (topside and subsea)	Surface Hydrocarbons (1 – 10 g/m ²)	Accumulated hydrocarbons (10-100 g/m ²)	Surface Hydrocarbons (≥10 g/m)	Entrained Hydrocarbons(≥100 ppb)	Dissolved Hydrocarbons (≥50 ppb)	Accumulated Hydrocarbons (> 100 g/m ²)					
	Muiron Is	✓	✓	✓	✓		✓				✓		✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓						0.5									
	Muiron Is MMA	✓	✓	✓	✓		✓				✓		✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓		✓			0.5	0.5	0.5	2								
	Sunday Is	✓	✓	✓	✓		✓	✓		✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓							0.5							
Mainland (nearshore waters)	Exmouth	✓	✓		✓		✓	✓		✓		✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓		✓				0.5		1.5								
	Ningaloo Coast WH	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			2	0.5	1	16.5	2							
	Ningaloo MP (State)	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			0.5	0.5		5.5	0.5							
	Cape Range NP		✓	✓			✓			✓		✓					✓	✓		✓	✓	✓	✓	✓		✓								1							

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation Codes and Standards				
Contract vessels compliant with Marine Orders for safe vessel operations: <ul style="list-style-type: none"> • Marine Order 21 (Safety of navigation and emergency procedures) 2016; • Marine Order 27 (Safety of navigation and radio equipment) 2016 • Marine Order 30 (Prevention of Collisions) 2016. 	F: Yes CS: Minimal cost. Standard practice.	Marine Orders 21, 27 and 30 are required under Australian regulations; implementation is standard practice for commercial vessels as applicable to vessel size, type and class.	Control based on legislative requirement – must be adopted.	Yes C 1.1
Develop SIMOPS plan if more than one Woodside contracted vessel is operating in the Operational Area at any time.	F: Yes CS: Minimal cost. Standard practice.	SIMOPS plans between Woodside operated vessels in the Operational Area will ensure simultaneous activities/ operations are conducted safely.	Benefits outweigh cost sacrifice	Yes C 11.1
Maintain environmental incident response equipment to enact the Macedon First Strike Plan	F: Yes CS: Minimal cost. Standard practice.	Preparedness for oil spill response reduced the magnitude of potential consequences	Benefits outweigh cost sacrifice	Yes Appendix I
In the event of a hydrocarbon release emergency response activities implemented in accordance with the Macedon Oil Pollution First Strike Plan	F: Yes CS: Minimal cost standard practice	Rapid response in line with pre-prepared response plan will reduce the scale of potential impacts.	Control based on legislative requirement – must be adopted.	Yes Appendix I

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Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Vessels will have current MARPOL compliant Shipboard Oil Pollution Emergency Plan (SOPEP) and Shipboard Marine Pollution Emergency Plan (SMPEP - for noxious liquid) – the latter may be combined with a SOPEP.	F: Yes CS: Minimal cost. Standard practice	Compliance with MARPOL Annex I, minimises any potential impacts from any unplanned releases.	Control based on legislative requirement – must be adopted.	Yes C 11.3
Good practice				
Incident reports are raised for unplanned releases within event reporting system.	F: Yes CS: Minimal cost. Standard practice.	Good practice that operators identify, report and learn from unplanned release events. Supports compliance with regulatory reporting requirements.	Control based on Woodside standard and regulatory requirements	Yes C 11.4
Professional Judgement – Eliminate				
None identified				
Professional Judgement – Substitute				
None identified				
Professional Judgement – Engineering solution				
None identified				
<p>ALARP Statement:</p> <p>On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts and risks of accidental diesel spill. As no reasonable additional / alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, associated with Vessel Collision within the Operational Area, the impacts and risks are considered ALARP.</p>				

Demonstration of Acceptability
Vessel collision has been evaluated as having a ‘tolerable’ level of risk rating. As per Section 2 , Woodside considers ‘tolerable’ risk ratings as broadly acceptable if the adopted controls are implemented. The consequence assessment has determined that, given the adopted controls, an accidental diesel spill represents a tolerable risk rating. Opportunities to reduce diesel spill impact and risks are employed through standard practice such Marine Order 21, 27, and 30. The adopted controls are considered good oil-field practice/industry best practice and meet relevant Commonwealth and WA State regulatory requirements. The potential impacts and risks are considered tolerable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of accidental diesel spill to an acceptable level.

EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
EPO 14 Risk to the environment from an accidental diesel spill resulting from a vessel collision are limited to Tolerable during the Petroleum Activities Program.	C 1.1 Refer to Section 6.6.1	PS 1.1 Refer to Section 6.6.1	MC 1.1.1 Refer to Section 6.6.1
	C 11.1 Develop SIMOPS plan if more than one Woodside contracted vessel is operating in the Operational Area at any time.	PS 14.2.1 A SIMOPS plan is developed	MC 14.2.1 Records demonstrate SIMOPS plan was developed and implemented
	C 11.2 Maintain environmental incident response equipment to enact the Macedon First Strike Plan.	PS 11.2 Approved First Strike Plan in place and equipment tested as required.	MC 11.2.1 Records demonstrate that the First Strike Plan is in place and incident response equipment is maintained as required.
	C 11.3 Vessels will have current MARPOL compliant Shipboard Oil Pollution Emergency Plan (SOPEP) and Shipboard Marine Pollution Emergency Plan (SMPEP - for noxious liquid) – the latter may be combined with a SOPEP.	PS 11.3 SOPEP is implemented	MC 11.3.1 Records demonstrate implementation of SOPEP
	C 11.4 Incident reports are raised for unplanned releases within event reporting system.	PS 11.4 Incident reports raised for unplanned releases, and Recordable Incidents notified for unplanned liquid releases to sea, of: <ul style="list-style-type: none"> • 80 L or more of hydrocarbons, or • 1000 L or more of environmentally hazardous chemical in any 48-hour period. 	MC 11.4.1 Records demonstrate incident reports raised for unplanned releases, and applicable Recordable Incident notifications completed.
	C 11.5 Arrangements supporting the activities in the First Strike Plan will be tested to ensure the First Strike Plan can be implemented as planned	PS 11.5a Exercises/tests will be conducted in alignment with the frequency identified in Table 7-7 .	MC 11.5.1 Testing of arrangement records confirm that emergency response capability has been maintained.
PS 11.5b Woodside's procedure demonstrates a minimum level of trained personnel, for core roles in the OPEP, are maintained.		MC 11.5.2 Emergency Management dashboard confirms that minimum level of personnel trained for core OPEP roles are available.	

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6.7.3 Unplanned Hydrocarbon Release: Loss of Well Containment

Context														
Field Layout and Description – Section 3.5				Physical Environment – Section 4.4 Biological Environment – Section 4.5 Protected Places – Section 4.8 Socio-cultural Environment – Section 4.9				Consultation - Appendix F						
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Release of hydrocarbons from loss of subsea well containment			✓					A	2 - Measurable	Highly Unlikely	0.9	LCS RBA	Tolerable	EPO 12
Description of Source of Risk														
<p>Background</p> <p>The Macedon field production system comprises of 4 (and contingency for one new production well) subsea vertical gravel packed gas production wells tied into a subsea pipeline to the Macedon onshore gas plant. Macedon gas has a very low condensate yield. All wells are identically designed, with differences primarily due to minor depth changes and reservoir inflow performance. The most productive well in the field is Macedon 7, and as such this well has been selected for analysis of worse case LOWC scenarios.</p> <p>Each well is completed with a 7 inch tubing string, fitted with a subsurface safety valve (SCSSV) at around 250 m depth. The SCSSV is held open via hydraulic control line pressure from surface, which is designed to auto close upon loss of control line pressure. The reservoir section is completed using an open hole gravel pack for sand control at depths of about 930 m to 990 m below sea level. The wells are located in 160 m to 180 m water depth. Each well has a horizontal subsea Xmas tree which houses a master valve and wing valve in series which are similarly hydraulically functioned and both are designed to auto close upon loss on control line pressure.</p> <p>Well Design and well integrity management requirements dictate that a primary barrier envelope and a secondary barrier envelope is maintained at all times. The establishment and maintenance of a barrier envelope is essential to prevent the unplanned escape of fluid from the well. The presence of additional barrier elements and barrier envelopes beyond the primary and secondary provides improved redundancy.</p> <p>The Macedon Subsea Tree critical valves and subsurface safety valves are function tested at 12 month intervals and leak off tested at 24 month intervals. The performance standard acceptance criteria for routine tests are adopted from API RP14C/H and API STD 6AV1. The acceptable rate of leakage is 15scf/min leak rate as defined by pressure build up. All Macedon barrier Valves passed this Criteria on January 2021 and have done so since start of production.</p> <p>Source of risk</p> <p>A full failure of the SCSSV to close may render the well flowing unrestricted to the seabed. To quantify the release rate, a nodal analysis calculation has been performed for the Macedon 7 well using Petroleum Experts PROSPER software. The release rate is that for a flowing well head pressure equivalent to 156 m sea water depth (15.6 barg). The flow rate for the well would continue until such a time as a relief well could be drilled and the well killed. Over this timeframe there is no significant reservoir depletion expected, and as such the release rate has been treated as constant for simplification.</p> <p>The calculated release rate for Macedon 7 LOWC is presented in Table 6-7.</p>														

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Table 6-7: Loss of well control– calculated release volumes

	Daily release rate	Cumulative release (69 days)
Gas	142 MMscf	9 798 MMscf
Condensate	5.7 STB	393 STB

Woodside has assessed the minimum time to execute an emergency relief well including rig mobilisation and completed indicative relief well timings in the WOMP as 69 days. These include the planning for:

- Mobilise Rig (Assumed from SE Asia Worst Case). Rig Acquisition includes identify candidate rig, suspend other operators operation and pull anchors
- Drill to likely intercept point (9 5/8" production shoe) timings based on timings for typical offshore Australia well, plus 25% contingency
- Well kill assumes intercept achieved on 3rd attempt with each intercept cycle taking 4 days based on Engineer's best judgement
- Total estimated duration from well blowout to well killed
- Timings assume that if a stimulation vessel or supply vessel mounted pumping spread is required for well kill, the mobilisation time occurs concurrently with the rig mobilisation and drilling of the relief well.

While the LOWC scenario is considered the worst-case discharge, it is also assessed to be highly unlikely due to controls that are in place. For this reason, the time to kill the well blowing out and stop any potential discharge, has not been provided in further definition, and relief well operations (69 days) would be conducted as per standard MACPN-SO-0003 WOMP practices accepted by NOPSEMA (02 May 2023).

Risk Analysis and ALARP Tools

Woodside has a good history of implementing industry standard practice in well design and construction. In the company's recent history, it has not experienced any well integrity events that have resulted in significant releases or significant environmental impacts. Woodside has never experienced a worst-case loss of well containment in its operational history.

Likelihood

In accordance with the Woodside PetDW Risk Matrix, a worst-case LOWC has been defined as a 'highly unlikely' event and aligns with a frequency of 'not likely to occur within a 50-year period'. Information to support this likelihood determination is outlined below.

Review of industry statistics indicates that the probability of a loss of well containment for production wells is low (10.6% of blowouts) relative to other activities in other hydrocarbon provinces (Gulf of Mexico and the North Sea), such as exploration drilling (31.5% of blowouts), development drilling (23.6% of blowouts) and well workovers (20.5% of blowouts) (SINTEF 2017).

Consequence Assessment

Environment that May Be Affected

If the worst case credible well loss of containment occurred, this could release up to 142 MMscf per day of gas and approximately 5.7 STB per day of condensate (less than 1 m³). The release would rapidly undergo dilution and dispersion, with effects localised to the immediate area and water column surrounding. In the very rare event of a full tree rupture, the wells can be shut in thereby preventing any further release of gas from the well field.

Samples of gas from Macedon wells are more common than samples of condensate. This was confirmed during 2014 flow sales gas sample and 2012 well flow back to rig; the sample was so dry there was no recovery of condensate (during 8 hrs) at the low flash pressure of the separator. In both cases, there was not enough volume in sample to undertake any condensate analysis.

Consequence Assessment

Pelagic fish, cetaceans and marine reptiles are unlikely to remain in a location affected by a spill for long enough to be exposed to lethal concentrations. Plankton entrained in the spill could be impacted; however, due to the small volumes, and the rapid dilution and dispersal that will result at the oceanic location, the environmental effects will be temporary and localised, with significant impacts not expected owing to the small area of impact relative to the widespread distribution of receptors.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation, Codes and Standards				
Maintain well mechanical integrity to contain hydrocarbons within the well envelope	F: Yes CS: Minimal cost. Standard practice.	Maintaining scheduled barrier tests and regular inspection operations are the means of maintaining barrier integrity.	Benefits outweigh cost sacrifice.	Yes C 12.1
Maintain Safety Instrumented System (Safety Instrumented Functions and ESD actions) to detect and respond to pre-defined initiating conditions and/or initiate responses that put the process plant, equipment, and the wells in a safe condition	F: Yes CS: Minimal cost. Standard practice.	Maintaining scheduled barrier tests and regular inspection operations are the means of maintaining barrier integrity.	Benefits outweigh cost sacrifice.	Yes C 12.2
Maintain environmental incident response equipment to enact the Macedon First Strike Plan	F: Yes CS: Minimal cost. Standard practice.	Preparedness for oil spill response reduced the magnitude of potential consequences	Benefits outweigh cost sacrifice	Yes C 12.3
Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration) Regulations 2011: Accepted Well Operations Management Plan (WOMP)	F: Yes CS: Minimal cost. Standard practice.	The WOMP demonstrates that the risks to well integrity are managed in accordance with sound engineering principles, standards, specifications, and good oilfield practice. It describes the systems that are in place to ensure well design and integrity is managed for the well lifecycle, thus contributing to management of associated potential environmental consequences of well integrity events.	Control based on legislative requirement – must be adopted.	Yes C 12.4

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Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Incident reports are raised for unplanned releases within event reporting system.	F: Yes CS: Minimal cost. Standard practice.	Good practice that operators identify, report and learn from unplanned release events. Supports compliance with regulatory reporting requirements.	Control based on Woodside standard and regulatory requirements	Yes C 12.5
Good practice				
In the event of a hydrocarbon release emergency response activities implemented in accordance with the Macedon Oil Pollution First Strike Plan	F: Yes CS: Minimal cost. Standard practice.	Rapid response in line with pre-prepared response plan will reduce the scale of potential impacts.	Control based on legislative requirement – must be adopted.	Yes C 12.6
Professional Judgement – Eliminate				
None identified.				
Professional Judgement – Substitute				
None identified.				
Professional Judgement – Engineered Solution				
None identified.				
ALARP Statement:				
<p>On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts and risks of a very low likelihood unplanned hydrocarbon release as a result of a loss of well containment.</p> <p>The principle of inherent safety and environmental protection is based on the prevention of the event through design of well integrity and ensuring the wells are operated within their design envelope through operating practices and assurance through maintenance and inspection. If hydrocarbon loss of containment occurs, mitigation measures are in place to minimise the consequence by limiting the inventory which can be released and implementing remediation.</p> <p>The controls in place for prevention and mitigation are specified and assured through implementing the Macedon WOMP.</p> <p>Given the controls in place to prevent and control loss of containment events and mitigate their consequences, alongside procedural control of well intervention activities, it is considered that the risk associated with Wells Loss of Containment at Macedon is managed to ALARP.</p>				

Demonstration of Acceptability
<p>Acceptability Statement</p> <p>The risk assessment has determined that, given the adopted controls, loss of well containment represents a measurable impact to water quality. Further opportunities to reduce the impacts have been investigated above. The adopted controls are considered good oil-field practice/industry best practice. The potential impacts are considered tolerable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts of subsea activities to a level that is tolerable.</p>

EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
EPO 12 Well loss of containment risks to the environment limited to Tolerable during the Petroleum Activities Program.	C 12.1 Maintain well mechanical integrity to contain reservoir fluids within the well envelope	PS 12.1 Integrity will be managed in accordance with Subsea Facilities and Pipeline Integrity Management Plan.	MC 12.1.1 Records demonstrate compliance with Subsea Facilities and Pipeline Integrity Management Plan.
	C 12.2 Maintain Safety Instrumented System (Safety Instrumented Functions and ESD actions) to detect and respond to pre-defined initiating conditions and/or initiate responses that put the process plant, equipment, and the wells in a safe condition	PS 12.2 Safety shutdown systems will be managed in accordance with Safety Shutdown System Critical Equipment Performance Standard to: Perform emergency shutdown functions necessary to safeguard the process and related utility systems from escalation due to an upset condition beyond safety limits. This is achieved by: Isolation of sections of the production process and related equipment; shutdown of related utility systems; de-energising hazardous electrical power; and initiation of alarms.	MC 12.2.1 Records demonstrate compliance with Safety Shutdown System Performance Standard.
	C 12.3 Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration) Regulations 2011: Accepted WOMP.	PS 12.3 An accepted WOMP is implemented, and well integrity notification and reporting is undertaken in accordance with the Regulations (as applicable).	MC 12.3.1 Acceptance letter from NOPSEMA demonstrates acceptance of the WOMP. Records demonstrate applicable NOPSEMA notification and reporting.
	C 11.2 Refer to Section 5.7.2.	PS 11.2 Refer to Section 5.7.2.	MC 11.2.1 . Refer to Section 5.7.2.
	C 11.4 Refer to Section 5.7.2.	PS 11.4 Refer to Section 5.7.2.	MC 11.4.1 Refer to Section 5.7.2.
	C 11.5 Refer to Section 5.7.2.	PS 12.5a Refer to Section 5.7.2.	MC 12.5.1 Refer to Section 5.7.2.
		PS 12.5b Refer to Section 5.7.2.	MC 12.5.2 Refer to Section 5.7.2.

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6.7.4 Unplanned Hydrocarbon Release: Subsea infrastructure

Context														
Field Layout and Description – Section 3.5				Physical Environment – Section 4.4 Biological Environment – Section 4.5 Protected Places – Section 4.8 Socio-cultural – Section 4.9				Consultation – Appendix F						
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Release of hydrocarbons resulting from loss of containment from subsea infrastructure.		✓	✓	✓	✓	✓	✓	B	2 - Measurable	Unlikely	3	LCS RBA CV SV	Tolerable	EPO 13
Description of Source of Risk														
<p>In the unlikely event of leaking or rupture of subsea wet gas pipeline or umbilicals during operations, there is the potential for the release of production fluids (including hydrocarbons) or of chemicals (condensate, methanol, biocide, control fluid) to the marine environment. A release from the Macedon gas pipeline would involve a gas comprised almost entirely of methane (94%) and nitrogen (5%), with any hydrocarbons that could form a condensate remaining in vapour phase. Any liquid hydrocarbons on the sea surface are unlikely at detectable volumes. In the unlikely event of a pipeline rupture, the wells can be shut in thereby preventing any further release of gas and condensate from the well field through the pipeline.</p> <p>At any one time the pipeline contains 2,021,031 m³ of methane gas, 0.5 m³ of entrained condensate and <20 m³ of injected condensate. In the highly unlikely event of a pipeline rupture, the volume of releases would be less than quoted.</p>														
Consequence Assessment														
<p>Impacts to seabed biota in the vicinity of the pipeline are negligible in the absence of any significant habitat along the pipeline route. The amount of GHG emissions from a worst case pipeline release is equivalent to around 462 tonnes of carbon dioxide (eCO₂) or 0.3% of the estimated maximum annual GHG emitted by Macedon Gas Plant.</p> <p>There are relatively small volumes of fluids in the offshore umbilical (combined total <200 m³) with 60 m³ of methanol, 26 m³ of corrosion inhibitor and 116 m³ of well control fluid in the umbilical line between the onshore gas plant and the subsea manifold in the Field. The AMON line has previously been used for tree testing using methanol. The calculated volume of the AMON line is 27 m³. At times the AMON line may be used to continually inject stabilised condensate at a rate of approximately 15 m³/day into the wet gas pipeline. Steady state condensate hold up in the wet gas pipeline during condensate injection is estimated to be 20 m³. Unplanned leaks/spills of stabilised condensate from the umbilical were assessed as ranging from minor leaks (continuous discharge of ~1 m³/day up to a maximum of 14 m³ over 2 weeks until detection), up to a maximum of 30 m³ for an instantaneous release resulting from umbilical rupture (e.g. anchor damage (external party)).</p> <p>In the event that the umbilical ruptures, which is considered extremely unlikely given the integrity of fabrication, dilution will be high and effects localised to the release point.</p> <p>Methanol is highly biodegradable in water (half-life of 24 hours) and has a non-CHARM rating of “E”, the lowest environmental impact rating under the OCNS. The active compounds in the corrosion inhibitor (ethylene glycol and 2-butoxyethanol) will be rapidly diluted within a very localised area, rapidly biodegrade and will not bioaccumulate. The</p>														

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well control fluid is used for valve actuation (i.e. is intended for marine discharge) with an OCNS non-CHARM rating of "D" and would result in low environmental impact if there was an unplanned release.

In the event of an umbilical rupture, low volumes of condensate could be released to the environment (up to a maximum of 30 m³ for an instantaneous release). Condensate is considered a light hydrocarbon (Group I hydrocarbon under the AMSA classification (AMSA, 2005)) and when released to the marine environment would undergo rapid spreading and evaporative loss in warm waters. In the event of a subsea release, as condensate is more buoyant than water, it will rise to float on the sea surface. However, given the low release volumes, dispersal from subsea currents, and evaporation and spreading on the sea surface, it is predicted that the condensate will not be visible on the sea surface. Any condensate that does reach the sea surface is not predicted to reach concentrations that would cause toxic effects to marine fauna.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation Codes and Standards				
Integrity Management Plan, which drives the inspection program to identify integrity issues	F: Yes CS: Minimal cost. Standard practice.	Can significantly reduce the potential consequences of an incident.	Benefits outweigh cost sacrifice	Yes C 13.1
Subsea infrastructure are shown on marine charts	F: Yes CS: Minimal cost. Standard practice.	Reduces the likelihood of unplanned interactions with subsea infrastructure.	Benefits outweigh cost sacrifice	Yes C 13.2
Maintain well mechanical integrity to contain reservoir fluids within the well envelope	F: Yes CS: Minimal cost. Standard practice.	Significantly reduce the potential consequences of an incident.	Benefits outweigh cost sacrifice.	Yes C 12.1
Maintain Safety Instrumented System (Safety Instrumented Functions and ESD actions) to detect and respond to pre-defined initiating conditions and/or initiate responses that put the process plant, equipment, and the wells in a safe condition	F: Yes CS: Minimal cost. Standard practice.	Can significantly reduce the potential consequences of an incident.	Benefits outweigh cost sacrifice.	Yes C 12.4
Maintain environmental incident response equipment to enact the Macedon First Strike Plan	F: Yes CS: Minimal cost. Standard practice.	Preparedness for oil spill response reduced the magnitude of potential consequences	Benefits outweigh cost sacrifice	Yes C 12.5

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Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009: Accepted Safety Case for the Macedon Pipeline to; <ul style="list-style-type: none"> • identify hazards associated with pipeline operations that have the potential to cause a loss of containment; • provide a detailed description for each pipeline; • detail assessment of loss of containment risks; and • describe the physical barriers and the safety management systems identified as being required to reduce the risk to personnel associated with a loss of containment to ALARP; thus contributing to management of associated potential environmental consequences of pipeline related losses.	F: Yes CS: Minimal cost. Standard practice.	Reduces the likelihood of a major loss of containment from the pipeline	Benefits outweigh cost sacrifice	Yes C 13.3
Incident reports are raised for unplanned releases within event reporting system.	F: Yes CS: Minimal cost. Standard practice.	Good practice that operators identify, report and learn from unplanned release events. Supports compliance with regulatory reporting requirements.	Control based on Woodside standard and regulatory requirements	Yes C 12.7
Good practice				
None Identified.				
Professional judgement – Eliminate				
None identified.				
Professional judgement – Substitute				

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Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
None identified.				
Professional Judgement – Engineered solution				
None identified.				
<p>ALARP Statement:</p> <p>On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts and risks of a highly unlikely unplanned hydrocarbon release as a result of a loss of pipeline containment.</p> <p>The principle of inherent safety and environmental protection is based on the prevention of the event through design of pipeline and riser integrity and ensuring the systems are operated within their design envelope through operating practices and assurance through maintenance and inspection. If hydrocarbon loss of containment occurs, mitigation measures are in place to minimise the consequence by limiting the inventory which can be released and implementing remediation.</p> <p>The controls in place for prevention and mitigation are specified and assured through implementing the Macedon Facility Safety Case and the various standards and plans.</p> <p>Given the controls in place to prevent and control loss of containment events and mitigate their consequences, it is considered that the risk associated with Pipeline, flowline or subsea Loss of Containment at Macedon is managed to ALARP.</p>				

Demonstration of Acceptability
<p>Acceptability Statement</p> <p>Loss of pipeline, flowline or subsea containment has been evaluated as having a ‘tolerable’ level of risk rating. As per Section 2, Woodside considers ‘tolerable’ risk ratings as broadly acceptable if the adopted controls are implemented. Due to the severity associated with the event, ALARP is demonstrated using good industry practice, consideration of company and societal values and risk based analysis, if legislative requirements are met and societal concerns are accounted for and the alternative control measures are grossly disproportionate to the benefit gained.</p> <p>Acceptability is demonstrated with regard to the considerations described in Section 5 (the considerations include principles of Ecological Sustainable Development, internal context, external context and other requirements (includes laws, policies, standards and conventions)).</p>

EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
<p>EPO 13 Subsea loss of containment risks to the environment limited to Tolerable during the Petroleum Activities Program.</p>	<p>C 13.1 Maintain subsea infrastructure integrity to</p>	<p>PS 13.1 Integrity will be managed in accordance with Subsea Facilities and Pipeline Integrity Management Plan.</p>	<p>MC 13.1.1 Records demonstrate compliance with Subsea Facilities and Pipeline Integrity Management Plan.</p>
	<p>C 13.2 Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009: Accepted Safety Case for the Macedon Facility.</p>	<p>PS 13.2 An accepted Safety Case is implemented, and notification and reporting is undertaken in accordance with the Regulations (as applicable).</p>	<p>MC 13.2.1 Accepted Safety Case</p>

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EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
	Refer to C 1.2 (Section 6.6.1)	Refer to PS 1.2 (Section 6.6.1)	Refer to MC 1.2.1 (Section 6.6.1)
	Refer to C 12.2 (Section 6.7.3)	Refer to PS 12.2 (Section 6.7.3)	Refer to MC 12.2.1 (Section 6.7.3)
	Refer to C 12.3 (Section 6.7.3)	Refer to PS 12.3 (Section 6.7.3)	Refer to MC 12.3.1 (Section 6.7.3)
	Refer to C 12.5 (Section 6.7.3)	Refer to PS 12.5 (Section 6.7.3)	Refer to MC 12.5.1 (Section 6.7.3)
	Refer to C 12.6 (Section 6.7.3)	Refer to PS 12a (Section 6.7.3)	Refer to MC 12.6.1 (Section 6.7.3)
		Refer to PS 12b (Section 6.7.3)	Refer to MC 12.6.2 (Section 6.7.3)

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6.7.5 Unplanned Discharges: Hazardous and Non-hazardous Waste Management

Context														
Subsea Support Vessels – Section 3.6.5			Physical Environment – Section 4.4 Biological Environment – Section 4.5					Consultation – Appendix F						
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Loss of non-hazardous solid waste (rubbish) overboard.		✓	✓					A	2 - Measurable	Highly Unlikely	0.9	LCS GP	Tolerable	EPO 14
Accidental leaks from storage and equipment, ROV, AUV hydraulic fluid			✓					A	1 - Minor	Possible	1			
Description of Source of Risk														
<p>Normal support vessel operations result in a variety of hazardous and non-hazardous wastes. These materials could potentially impact the marine environment if incorrectly disposed of, lost overboard, or discharged in significant quantities.</p> <p>Non-hazardous wastes include domestic and industrial wastes, such as aluminium cans, bottles, paper and cardboard, scrap steel. The volumes of non-hazardous waste generated on vessels are generally low.</p> <p>Hazardous wastes are defined as wastes that are, or contain, ingredients harmful to health or the environment. These include recovered solvents, excess or spent chemicals, oil contaminated materials (e.g., sorbents, filters and rags), batteries, and used lubricating oils. Waste is segregated onboard the vessels and stored in designated skips and waste containers. All waste materials not suitable for discharge to the environment, including hazardous wastes (i.e., liquid and solid wastes), are transported to shore for disposal or recycling by Woodside’s licensed waste contractor.</p>														
Consequence Assessment														
<p>The potential impacts of solid wastes accidentally discharged to the marine environment include direct disturbance, pollution and contamination of the marine environment and secondary impacts relating to potential contact of marine fauna with wastes resulting in entanglement or ingestion and potentially leading to injury and death of individual animals.</p> <p>Accidental loss overboard of single items or units of waste may impact the environment through a reduction in water quality, or present a hazard to marine fauna, depending on the waste involved. Given the small volumes of waste generated and the management in place to prevent loss overboard (e.g., covers on skips/bins), the risk of impact is considered to be low.</p> <p>Solid material accidentally lost to the marine environment could potentially sink to the seabed causing disturbance. The area of seabed disturbance will be limited to the size of the object footprint. If not retrieved, a slight localised contamination of benthic sediments could occur. However, there are no significant coral reef structures within the Operations Area, with much of the substrate comprising sandy gravels with a low but variable cover of epibiota. The seabed fauna in the area is sparse and predominantly comprised of crustaceans and polychaetes (worms). These</p>														

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species are considered to have low sensitivity to physical disturbance (compared to, for example, sponges or octocorals) and generally display high recovery following physical disturbance.

All waste (hazardous and non-hazardous) generated by vessels during IMMR activities is transported to and managed appropriately by 3rd parties. Environmental impacts associated with onshore disposal relate to the small incremental increase in waste volumes received at the onshore licensed waste recycling and/or disposal sites. The environmental impacts associated with waste disposal onshore are anticipated to be low because of the minor quantities involved, recycling of some materials and the localised area of impact.

The temporary or permanent loss of waste materials into the marine environment is not likely to have a significant environmental impact based on the location of the Operational Area, the types, size and frequency of wastes that could occur, and the transitory nature of the species present.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)⁴²	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation, Codes and Standards				
Contract vessels compliant with Marine Orders for safe vessel operations: <ul style="list-style-type: none"> Marine Order 94 (Marine pollution prevention – packaged harmful substances) 2014; Marine Order 95 (Pollution prevention – Garbage). 	F: Yes CS: Minimal cost. Standard practice.	Implementation of Marine Order 94 and 95 reduces the likelihood of a harmful substance being released to the environment. Implementation is standard practice for commercial vessels as applicable to vessel size, type and class.	Controls based on legislative requirements – must be adopted.	Yes C 14.1
Good Practice				
All contracted vessels will have a waste management plan for managing waste generation, storage, transport and disposal.	F: Yes CS: Standard practice. Minimal cost.	Reduces probability of waste being discharged to sea and ensures compliance with Marine Order 94 and 95.	Control based on Woodside standard and regulatory requirements.	Yes C 14.3
Professional Judgement – Elimination				
None identified.				
Professional Judgement – Substitute				
None identified.				
Professional Judgement – Engineered Solution				
None identified.				
ALARP Statement:				
On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts and risks of accidental discharge of non-hazardous and hazardous wastes. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

⁴² Qualitative measure

Demonstration of Acceptability

Acceptability Statement:

The consequence assessment has determined that, given the adopted controls, the accidental discharge of non-hazardous waste and hazardous waste represent a tolerable risk rating and is unlikely to result in a consequence greater than slight, short-term impacts to water quality, marine sediments and marine species. Woodside, across its operations has a well-established waste management culture which underpins a strong performance and limits the potential for accidental releases to the marine environment. Opportunities to reduce waste management impact and risks are employed through standard practice such as job planning, implementation of the Waste Management Plan, lifting procedures, and job hazard analysis practices. The adopted controls are considered good oil-field practice/industry best practice and meet relevant Commonwealth and WA State regulatory requirements. The potential impacts and risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of accidental discharge of non-hazardous and hazardous waste to a level that is broadly acceptable.

EPOs, EPSs and MC

<i>Environmental Performance Outcomes</i>	<i>Controls</i>	<i>Environmental Performance Standards</i>	<i>Measurement Criteria</i>	
EPO 14 Environmental risk from accidental release of hazardous and non-hazardous waste management limited to Tolerable during the Petroleum Activities Program.	C 14.1 Contract vessels compliant with Marine Orders for safe vessel operations: <ul style="list-style-type: none"> • Marine Order 94 (Marine pollution prevention – packaged harmful substances) 2014; • Marine Order 95 (Pollution prevention – Garbage). 	PS 14.1 Vessels contracted whose practices comply with Marine Orders as applicable to vessel size, type and class.	MC 14.1.1 Marine verification records demonstrate compliance with standard maritime safety procedures (Marine Orders 21 and 30).	
	CM 14.3 All contracted vessels will have a waste management plan for managing waste generation, storage, transport and disposal.		PS 14.3 Waste management plan will be implemented, including preventative and mitigating controls.	MC 14.3.1 Waste management plan prepared in consultation with Vessel Contractor and Waste Contractor.
				MC 14.3.2 Records of waste type, source and quantities of waste sent onshore are maintained.

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6.7.6 Physical Presence: Seabed Disturbance from Dropped Objects

Context														
Subsea Support Vessels – Section 3.93.6.5				Physical Environment – Section 4.4 Biological Environment – Section 4.5				Consultation – Appendix F						
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Dropped objects from vessels.		✓				✓		A	1 - Minor	Unlikely	1	LCS GP	Tolerable	EPO 15
Description of Source of Risk														
<p>During the life of this EP the primary cause for unplanned seabed disturbance is through dropped objects from the subsea support vessels performing IMMR activities.</p> <p>There is the potential for objects to be dropped overboard from the subsea support vessels to the marine environment. Objects that have been dropped during previous offshore activities include small numbers of personal protective gear (e.g. glasses, gloves, hard hats), small tools (e.g. spanners) hardware fixtures (e.g. riser hose clamp) and drill equipment (e.g. drill pipe); however, there is also potential for larger equipment to also be dropped during the activity. The spatial extent in which dropped objects can occur is restricted to the Operational Area.</p>														
Consequence Assessment														
<p>In the unlikely event of an object being dropped into the marine environment or failed mooring, potential environmental effects would be limited to minor physical impacts on benthic communities. In most cases, objects will be able to be recovered and therefore these impacts will also be temporary in nature. However, there may be instances where objects are unable to be recovered due to health and safety, operational constraints or other factors such as the difficulty of recovering dropped objects at depth. When dropped objects are unable to be recovered, the impact will continue to be minor but permanent.</p> <p>KEFs</p> <p>The temporary or permanent loss of dropped objects into the marine environment and mooring failure is likely to result in a minor impact only, as the benthic communities associated with the Operational Area are of low sensitivity and are broadly represented throughout the NWMR. As described in Section 4.7, the Ancient Coastline at 125 m Depth Contour and the Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula KEFs overlaps the Operational Area. Benthic communities in the Operational Area are representative of the deep water soft sediment habitats reported in the wider region, and is likely to consist of soft sediment seabed habitat, characterised by sparse, widely represented epifauna and infauna (Woodside, 2004; Brewer et al., 2007).</p> <p>Given the nature and scale of risks and consequences from dropped objects, slight impacts are expected to seabed sensitivities within the Operational Area. Furthermore, the Operational Area overlaps a relatively minor proportion of the KEF (Figure 4 10). Further, considering the types, size, scale and frequency of dropped objects that could occur, it is unlikely that a dropped object would have a significant impact on any benthic community.</p> <p>Any unplanned seabed disturbance within the KEF would be relatively small compared to the size of the KEF. There will be no substantial adverse effect on the KEF or the communities within it. On this basis, any impacts are expected to be minor.</p> <p>Epifauna and Infauna</p>														

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As a result of a change in water quality and change in habitat, injury or mortality to marine fauna resulting from an increase in turbidity may occur. Given a change to water quality is unlikely, the only receptors that would potentially be at risk of unplanned seabed disturbance are bottom dwelling species including epifauna and infauna. Benthic communities, including epifauna and infauna may be impacted by the dropped objects, or the drag of anchors on the seabed. If not recovered, dropped objects may result in the permanent loss of a small area under the object.

Given generally sparse benthic communities in the Operational Area, epifauna and infauna communities observed are likely to be well represented elsewhere in the region, impacts are expected to be restricted to a localised proportion of epifauna and infauna communities.

Based on the detailed evaluation, the magnitude of potential impacts to epifauna and infauna from unplanned seabed disturbance during activities associated with the Petroleum Activities Program is evaluated to be minor.

Cultural Values and Heritage

Woodside has conducted consultation with Traditional Custodian groups as described in **Section 5**. Consultation with Traditional Custodians has not identified any Aboriginal cultural features or heritage values specifically associated with the Macedon subsea infrastructure. However, consultation with the Western Australian Museum has identified an opportunity to undertake an assessment of the prospectivity for archaeological sites along the entire pipeline route, including the portion in Commonwealth waters (and within the Operational Area). Therefore, prior to any future seabed disturbing activities occurring, Woodside will undertake a desktop survey to understand the likelihood of cultural heritage features being present in that area.

Should any Aboriginal cultural features or heritage values be identified within the Operational Area there is potential for these to be impacted in the event of a dropped object in the same area in which they are located.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)⁴³	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation, Codes and Standards				
None identified				
Good Practice				
Dropped objects will be recovered if safe and practicable to do so.	F: Yes CS: Minimal cost. Standard practice.	Potentially reduces consequence by recovering object/waste container from the environment.	Benefit outweighs cost sacrifice.	Yes C 15.2
Lifting procedures applied by all vessels to minimise risk of dropped objects overboard.	F: Yes CS: Standard practice. Minimal cost.	Reduces the risk of a dropped object during lifting operations.	Control based on Woodside standard and regulatory requirements.	Yes C 15.4
Professional Judgement – Elimination				
None identified.				
Professional Judgement – Substitute				
None identified.				
Professional Judgement – Engineered Solution				
None identified.				
ALARP Statement:				
On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts and risks of seabed disturbance from dropped objects. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

⁴³ Qualitative measure

Demonstration of Acceptability

Acceptability Statement:

The consequence assessment has determined that, given the adopted controls, the accidental seabed disturbance from dropped objects represent a tolerable risk rating and is unlikely to result in a consequence greater than slight, short-term impacts to the seabed, including KEFs, benthic habitats and cultural values. Woodside, across its operations has a well-established waste management culture which underpins a strong performance and limits the potential for accidental releases to the marine environment. Opportunities to reduce the likelihood of dropped objects are employed through standard practice such as job planning, lifting procedures, and job hazard analysis practices. The adopted controls are considered good oil-field practice/industry best practice and meet relevant Commonwealth and WA State regulatory requirements. The potential impacts and risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of accidental discharge of unplanned seabed disturbance to a level that is broadly acceptable.

EPOs, EPSs and MC

<i>Environmental Performance Outcomes</i>	<i>Controls</i>	<i>Environmental Performance Standards</i>	<i>Measurement Criteria</i>
EPO 15 Environmental risk from dropped objects limited to Tolerable during the Petroleum Activities Program.	C 15.2 Dropped objects will be recovered if safe and practicable.	PS 15.2 Material ⁴⁴ environmentally hazardous or non-hazardous solid waste object/container dropped to the marine environment will be recovered where safe and practicable to do so. Where safe and practicable for this activity will consider: <ul style="list-style-type: none"> • risk to personnel to retrieve object • whether the location of the object is in recoverable water depths • object's proximity to subsea infrastructure • ability to recover the object (i.e. nature of object, lifting equipment or, ROV availability and suitable weather). 	MC 15.2.1 Records detailing the recovery considerations or attempts, and status of material lost to the marine environment.
	C 15.4 Lifting procedures applied by all vessels to minimise risk of dropped objects.	PS 15.4 Work (lifting/ operating) procedures	MC 15.4.1 Woodside audit/ vessel inspection record verifies lifting/ operating procedures, etc. in place

⁴⁴ For the purposes of this control/performance standard "material" is defined as unplanned releases of environmentally hazardous or non-hazardous solid object/waste events with an environmental consequence of >F.

6.7.7 Physical Presence: Vessel Collision with Marine Fauna

Context														
Subsea Support Vessels – Section 3.93.6.5							Protected Species – Section 4.6							
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Physical presence of vessels.						✓		A	2 - Measurable	Highly Unlikely	0.9	LCS	Tolerable	EPO 16
Description of Source of Risk														
<p>Vessels operating in the Operational Area may present a potential hazard to cetaceans and other protected marine fauna, such as whale sharks and marine reptiles. Vessel movements can result in potential impacts ranging from behavioural interference to collisions between the vessel (hull and propellers) and marine fauna, potentially resulting in superficial injury, serious injury that may affect life functions (e.g., movement and reproduction), and mortality.</p> <p>The factors that contribute to the frequency and severity of impacts due to collisions include vessel type, vessel operation (specific activity, speed), physical environment (e.g., water depth) and the type of animal potentially present and their behaviours. The duration of potential risk will be restricted to the short periods that vessels are in the Operations Area for IMMR activities.</p>														
Consequence Assessment														
<p>Considering the low number of vessel movements associated with the activity and the low vessel speeds in the Operations Area, it is unlikely that additional vessel traffic in the Operations Area as a result of IMMR activities will have a significant impact on migratory fauna species or other transiting marine fauna that may be present.</p> <p>Vessel collisions have been known to contribute to the mortality of marine fauna. The likelihood of a collision being lethal is influenced by vessel speed; the greater the speed at impact, the greater the risk of mortality (Jensen and Silber 2004, Laist et al. 2001).</p> <p><u>Whales</u></p> <p>Vanderlaan and Taggart (2007) found that the chance of lethal injury to a large whale as a result of a vessel strike increases from about 20% at 8.6 knots to 80% at 15 knots. According to the data of Vanderlaan and Taggart (2007), it is estimated that the risk is less than 10% at a speed of 4 knots. Vessel-whale collisions at this speed are uncommon and, based on reported data contained in the US National Ocean and Atmospheric Administration database (Jensen and Silber 2004). There only two known instances of collisions when the vessel was travelling at less than 6 knots, both of these were from whale watching vessels that were deliberately placed amongst whales.</p> <p>Vessels undertaking IMMR activities within the Operational Area are likely to be stationary or moving slowly (~4 knots). Therefore, the risk of a vessel collision with protected species resulting in death is inherently low.</p> <p>The nearest recognised BIAs for a cetacean (considered to be at risk due to relatively slow movement and proportion of time spent at or near the sea surface) is the humpback whale migration BIA, which overlaps the Operational Area (refer to Section 4.6.3). The pygmy blue whale migration BIA also lies 14.3 km west of the Operational Area. Each of the Conservation Management Plans and Conservation Advice for the threatened whale species with a likely presence in the Operational Area identify vessel strike/vessel disturbance as a threat to the species.</p>														

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Adverse interactions between vessels and humpback or pygmy blue whales are unlikely due to the slow speeds of project vessels within the Operational Area, and the distance of the Operational Area from these known BIAs.

Sharks

Whale sharks are at risk from vessel strikes when feeding at the surface or in shallow waters (where there is limited option to dive). Vessel strike is recognised as a threat in the Approved Conservation Advice for *Rhinocodon typus* (Whale Shark) (TSSC, 2015). Whale sharks may traverse offshore NWS waters including the Operational Area during their migrations to and from Ningaloo Reef. However, it is expected that whale shark presence within the Operational Area would not comprise of significant numbers given there is no main aggregation area within the vicinity of the Operational Area, and their presence would be transitory and of a short duration. There are no constraints preventing whale sharks from moving away from vessels (e.g., shallow water or shorelines).

Marine Turtles

With consideration of the absence of potential nesting or foraging habitat (i.e., no emergent islands, reef habitat or shallow shoals) and the water depth (120-180 m in Commonwealth waters), it is considered that the Operational Area is unlikely to represent important habitat for marine turtles. It is acknowledged, however, that there are significant nesting sites along the WA mainland coast and islands of the region and that turtles may occur within the Operational Area in low numbers. There is an interesting BIA for the flatback turtle which overlaps the Operational Area, which is associated with the Montebello Islands (see **Section 4.6.2**). The Montebello Islands themselves are located about 150 km north-east of the Operational Area and this interesting area is a spatially assigned buffer for marine turtles nesting at the Montebello Islands. Therefore, it is unlikely that flatback turtles nesting at the Montebello Islands will be found to aggregate in significant numbers more than 100 km away and within the Operational Area.

Marine turtles are long-lived, slow to mature and are subject to a number of threats of which boat strike is the most relevant to IMMR activities as part of Macedon operations. As discussed in the Recovery Plan for Marine Turtles in Australia (CoA, 2017), marine turtles are vulnerable to boat strikes when at the surface to breathe and when resting between dives. The marine turtle populations affected by boat strike have been identified as: loggerhead turtles from the eastern Australian population; green turtles from the southern Great Barrier Reef population; hawksbill turtles from the north-eastern Australian populations; and flatback turtles from Queensland (CoA, 2017). On this basis, controls relating to vessel speed for cetaceans (EPBC Regulations 2000 – Part 8 Division 8.1) have been modified to include turtles and whale sharks to mitigate the potential for vessel strikes noting that intervention vessels do not travel at the same speeds that can be attained by recreational pleasure craft.

The typical response from turtles on the surface to the presence of vessels is to dive (a potential “startle” response), which decreases the risk of collisions (Hazel et al. 2007). As with cetaceans, the risk of collisions between turtles and vessels increases with vessel speed (Hazel et al. 2007). Given the low speeds of vessels undertaking the Petroleum Activities Program, along with the expected low numbers of turtles within the Operational Area, interactions between vessels and turtles are considered to be unlikely.

It is not deemed credible, that vessel movement associated with IMMR activities could have a significant impact on marine fauna populations given (1) the low presence of transiting individuals, (2) avoidance behaviour commonly displayed by whales, whale sharks and marine turtles and (3) low operating speed of the activity support vessels (generally less than 8 knots or stationary, unless operating in an emergency). Activities are considered unlikely to have a significant impact on marine fauna species other than short-term disruption to individuals or a small proportion of the population and no impact is expected on critical habitat or fauna activity.

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)⁴⁵	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation, Codes and Standards				
<p>Vessels operate in accordance with EPBC Regulations 2000 – Part 8 Division 8.1 Interacting with cetaceans, including the following measures:</p> <ul style="list-style-type: none"> • Vessels will not travel greater than 6 knots within 300 m of a cetacean or turtle (caution zone). • Vessels will not approach closer than 50 m for a dolphin or turtle and/or 100 m for a whale (with the exception of animals bow riding). • If the cetacean or turtle shows signs of being disturbed, support vessels will immediately withdraw from the caution zone at a constant speed of less than 6 knots. • Vessels will not travel greater than 8 knots within 250 m of a whale shark and not allow the vessel to approach closer than 30 m of a whale shark. 	<p>F: Yes CS: Minimal cost. Standard practice.</p>	<p>Reductions in speed around protected fauna reduce the likelihood of collision.</p>	<p>Controls based on legislative requirements – must be adopted.</p>	<p>Yes C 5.1</p>
Good Practice				
<p>Vary the timing of the Petroleum Activities Program to avoid migration periods.</p>	<p>F: No. The Petroleum Activities Program occurs continuously over a 5-year period, modifying the timing of the Petroleum Activities Program is not feasible. CS: Not considered, control not feasible.</p>	<p>Not considered, control not feasible.</p>	<p>Not considered, control not feasible.</p>	<p>No</p>

⁴⁵ Qualitative measure

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)⁴⁵	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Have a dedicated experienced and trained Marine Fauna Observer (MFO) onboard vessels to undertake marine fauna observations.	F: Yes, however additional cost for dedicated and experienced MFO to be present during IMMR. CS: Moderate, requires the provision of a dedicated experienced MFO to undertake Marine Fauna Observations.	Use of an MFO may detect fauna in the area.	Cost disproportionate to increase in environmental benefit. Potential impacts are low and IMMR activities are of short duration.	No
Professional Judgement – Eliminate				
Do not use vessels.	F: No. No alternative to the use of vessels during the Petroleum Activities Program was identified. Given that vessels must be used to undertake the Petroleum Activities Program. There is no feasible means to eliminate the source of risk. CS: Not assessed, control not feasible	Not assessed, control not feasible.	Not assessed, control not feasible.	No
Professional Judgement – Substitute				
None identified.				
Professional Judgement – Engineered Solution				
None identified.				
ALARP Statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the risk of vessel collision with marine fauna. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of Acceptability
Acceptability Statement: The consequence assessment has determined that, given the adopted controls, vessel collision with marine fauna represents a low-risk rating that is unlikely to result in a consequence greater than slight short-term disruption to individuals or a small proportion of the population and no impact on critical habitat or activity. Further opportunities to reduce the impacts and risks have been investigated above. The adopted controls are considered good oil-field practice/industry best practice and meet the requirements of Part 8 (Division 8.1) of the EPBC Regulations 2000. The potential impacts and risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of vessel collision with marine fauna to a level that is broadly acceptable.

EPOs, EPSs and MC			
<i>Environmental Performance Outcomes</i>	<i>Controls</i>	<i>Environmental Performance Standards</i>	<i>Measurement Criteria</i>
EPO 16 No mortality of cetaceans or marine turtles resulting from interactions with vessels.	Refer to C 5.1 Section 6.6.3	Refer to PS 5.1 Section 6.6.3	Refer to MC 5.1.1
			Refer to MC 5.1.2 Section 6.6.3

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6.7.8 Physical Presence: Introduction of Invasive Marine Species

Context														
Subsea Support Vessels – Section 3.9 3.6.5				Biological Environment – Section 4.5				Consultation – Section 5						
Impacts and Risks Evaluation Summary														
Source of Risk	Environmental Value Potentially Impacted							Evaluation						
	Soil and Groundwater	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems / Habitat	Species	Socio-cultural	Decision Type	Severity	Likelihood	Risk Level	ALARP Tool	Acceptability	Outcome
Invasive species in vessel ballast tanks or on vessels / submersible equipment.					✓	✓		A	4 - Serious	Highly Unlikely	9	LCS GP	Tolerable	EPO 17
Description of Source of Risk														
<p>The vessels undertaking IMMR activities have the potential to translocate marine pests either via biofouling or in ballast water. Vessels may be sourced from the local area (Dampier, Port Hedland, etc.) or from further afield, depending on the type of vessel required and availability. In addition, infrequent import of materials (e.g., spares) from international suppliers may be required. Vessels arriving from international waters typically call into Dampier, where quarantine clearance including ballast log reviews is conducted in accordance with <i>Biosecurity Act 2015</i>.</p> <p>All vessels are inherently subject to some level of marine fouling. Organisms attach to the vessel hull, particularly in areas where organisms can find a good surface (e.g., seams, strainers and unpainted surfaces) or where turbulence is lowest (e.g., niches, sea chests etc.). Organisms can also be drawn into ballast tanks during on-boarding of ballast water as cargo is unloaded or to balance vessels under load.</p> <p>Non-indigenous Marine Species (NIMS) have been introduced into a region beyond their natural biogeographic range and have the ability to survive, reproduce and establish founder populations. Not all NIMS introduced into an area will thrive or cause demonstrable impacts. Indeed, the majority of NIMS around the world are relatively benign and few have spread widely beyond sheltered ports and harbours. Only a subset of NIMS that become abundant and impact on social/cultural, human health, economic and/or environmental values can be considered IMS.</p> <p>During the IMMR activities, discharge of ballast water from vessels has the potential to lead to the introduction of IMS. The majority of vessels used during IMMR activities will be support vessels; these are typically sourced from Australia and are not considered high risk for IMS introduction.</p>														
Consequence Assessment														
<p>IMS have historically been introduced and translocated around Australia by a variety of human means including biofouling and ballast water. Species of concern are those that:</p> <ul style="list-style-type: none"> • are not native to the region • are likely to survive and establish in the region • are able to spread by human mediated or natural means. <p>Species of concern vary from one region to another depending on various environmental factors such as water temperature, salinity, nutrient levels and habitat type. These factors dictate their survival and invasive capabilities. Introducing IMS into the local marine environment may alter the ecosystem, as IMS have characteristics that make them superior (in a survival and/or reproductive sense) to indigenous species. They may prey upon local species</p>														

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(which had previously not been subject to this kind of predation and therefore not have evolved protective measures against the attack), they may outcompete indigenous species for food, space or light and can also interbreed with local species, creating hybrids such that the endemic species is lost.

IMS have also proven economically damaging to areas where they have been introduced and established. Such impacts include direct damage to assets (fouling of vessel hulls and infrastructure) and depletion of commercially harvested marine life (e.g., shellfish stocks). IMS have proven particularly difficult to eradicate from areas, once established. If the introduction is captured early, eradication may be effective but is likely to be expensive, disruptive and, depending on the method of eradication, harmful to other local marine life.

Although the consequence of the establishment of a marine pest is considered high, the deep offshore open waters of the Operational Area are not conducive to the settlement and establishment of IMS (Geiling 2016), due to the lack of light or suitable habitat to sustain growth or survival. The IMMR activities will be undertaken in an open ocean, offshore location more than 12 nm from shorelines and/or critical habitat and in waters approximately 120 to 180 m deep.

Assessment by DCCEE (then DEWHA) of the potential impacts from IMS as a result of the Macedon Operations concluded that they were unlikely to be significant provided specific management measures were implemented. Woodside intends to source vessels for Macedon IMMR activities from those already operating on the NWS and to implement management in accordance with prevailing biosecurity legislation and regulations, and the Development's conditions of approval, including implementation of an Introduced Marine Pest Management Procedure (AOHSE-E-0018). Given the very limited scale of vessel operations and the management that will be implemented, it is considered extremely unlikely that a successful IMS introduction would occur as a result of IMMR activities, and the residual risk is considered tolerable.

Summary of Potential Impacts to Environmental Value(s)

In support of Woodside's assessment of the impacts and risks of IMS introduction associated with the Petroleum Activities Program, risk and impact evaluations of the different aspects of marine pest translocation associated with the activity are undertaken. The results of this assessment are presented in the table below.

As a result of this assessment Woodside has concluded that the risk of introduction of IMS is tolerable.

IMS Introduction Aspect	Credibility of Introduction	Consequence of Introduction	Likelihood
Transfer of IMS from infected vessel to Operational Area and establishment on the seafloor or subsea infrastructure.	Not Credible	The deep offshore open waters of the Operational Area, away from shorelines and/or critical habitat, more than 12 nm from the shore and in waters 120 to 180 m deep are not conducive to the settlement and establishment of IMS.	

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Legislation, Codes and Standards				
On arrival in Australia all vessels will manage their ballast water using one of the approved ballast water management options, as specified in the Australian Ballast Water Management Requirements.	F: Yes CS: Minimal cost. Standard practice.	Reduction in the likelihood that ballast water will host IMS.	Controls based on legislative requirements under the <i>Biosecurity Act 2015</i> – must be adopted.	Yes C 17.1
Good Practice				
Woodside's IMS risk assessment process will be applied to the project vessels and immersible equipment. Assessment will consider the following risk factors: For vessels:	F: Yes CS: Minimal cost. Good practice implemented across all Woodside Operations.	Identifies potential risks and additional controls implemented accordingly. In doing so, the likelihood of transferring marine pests between subsea support vessels within the Operational Area is	Benefits outweigh cost/sacrifice.	Yes C 17.2

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Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
<ul style="list-style-type: none"> • recent IMS inspection and cleaning history, including for internal niches • age and suitability of antifouling coating at mobilisation date • internal treatment systems and history • origin and proposed area of operation • number of stationary/slow speed periods greater than seven days • region of stationary or slow periods • type of activity – contact with seafloor. <p>For immersible equipment:</p> <ul style="list-style-type: none"> • region of deployment since last thorough clean, particularly coastal locations • duration of deployments • duration of time out of water since last deployment • transport conditions during mobilisation • post-retrieval maintenance regime. <p>Based on the outcomes of each IMS risk assessment, management measures commensurate with the risk (such as the treatment of internal systems, IMS inspections or cleaning) will be implemented to minimise the likelihood of IMS being introduced.</p>		reduced. No change in consequence would occur.		

Demonstration of ALARP				
Control Considered	Control Feasibility (F) and Cost/Sacrifice (CS)	Benefit in Impact/Risk Reduction	Proportionality	Control Adopted
Professional Judgement – Eliminate				
Do not use vessels.	F: No. No alternative to the use of vessels during the Petroleum Activities Program was identified. Given that vessels must be used to undertake the Petroleum Activities Program. There is no feasible means to eliminate the source of risk. CS: Not assessed, control not feasible	Not assessed, control not feasible.	Not assessed, control not feasible.	No
Professional Judgement – Substitute				
Source vessels based in Australia only.	F: Yes. Support vessels are routinely sourced from Australia. However, depending on the nature of subsea IMMR activities, there may not be a suitable subsea support vessel within Australian waters. CS: Potential for significant cost and schedule impacts.	Reduction in the likelihood that a vessel will host IMS.	Disproportionate. The cost/sacrifice is grossly disproportionate to the benefit gained.	No
IMS Inspection of all vessels.	F: Yes. Approach to inspect vessels is feasible. CS: Significant cost and schedule impacts. Thorough inspections require vessels to be removed from the sea (e.g. slipped or dry docked) and examined by an IMS expert. This process incurs significant financial and schedule sacrifices. Timely vessel based support is integral to the safe and efficient operation of the Macedon subsea infrastructure and general operations.	Reduction in the likelihood that a vessel will host IMS.	Disproportionate. The cost/sacrifice is grossly disproportionate to the benefit gained.	No
Professional Judgement – Engineered Solution				
None identified.				
<p>ALARP Statement:</p> <p>On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts and risks of IMS introduction and establishment. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.</p>				

Demonstration of Acceptability

Acceptability Statement:

The risk assessment has determined that, given the adopted controls, introduction of IMS represent a low risk rating that is highly unlikely to result in a consequence greater than slight short-term impact on marine communities within the Operational Area. Further opportunities to reduce the impacts and risks have been investigated above. The adopted controls are considered good oil-field practice/industry best practice. The potential impacts and risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of IMS to an acceptable level.

EPOs, EPSs and MC

<i>Environmental Performance Outcomes</i>	<i>Controls</i>	<i>Environmental Performance Standards</i>	<i>Measurement Criteria</i>
EPO 17 No introduction of IMS into the Operational Area as a result of the Petroleum Activities Program.	C 17.1 All vessels will manage their ballast water using one of the approved ballast water management options, as specified in the Australian Ballast Water Management Requirements.	PS 17.1 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) to prevent the introduction of IMS.	MC 17.1.1 Ballast water exchange records maintained by vessels which verifies compliance against Ballast Water Management requirements.
	C 17.2 Woodside's IMS risk assessment process will be applied to activity vessels and immersible equipment. Assessment will consider the following risk factors: <ul style="list-style-type: none"> • For vessels • recent IMS and cleaning history, including for internal niches 	PS 17.2 Prior to entering the Operational Area Project vessels and relevant immersible equipment are determined to be low risk ⁴⁶ of introducing IMS of concern.	MC 17.2.1 Records of IMS risk assessments maintained for all project vessels and relevant immersible equipment entering the Operational Area to undertake the Petroleum Activities Program.

⁴⁶ Low risk of introducing IMS of concerns is defined as either no additional management measures required or, management measures have been applied to reduce the risk.

EPOs, EPSs and MC			
Environmental Performance Outcomes	Controls	Environmental Performance Standards	Measurement Criteria
	<ul style="list-style-type: none"> • age and suitability of antifouling coating at mobilisation date • internal treatment systems and history • origin and proposed area of operation • number of stationary/slow speed periods greater than seven days • region of stationary or slow periods • type of activity – contact with seafloor. <p>For immersible equipment:</p> <ul style="list-style-type: none"> • region of deployment since last thorough clean, particularly coastal locations • duration of deployments • duration of time out of-water since last deployment • transport conditions during mobilisation • post retrieval maintenance regime. <p>Based on the outcomes of each IMS risk assessment, management measures commensurate with the risk (such as the treatment of internal systems, IMS inspections or cleaning) will be implemented to minimise the likelihood of IMS being introduced.</p>	<p>PS 17.3</p> <p>IMS risk assessments undertaken by an authorised Environment Advisor who has completed relevant Woodside IMS training or by qualified and experienced IMS inspector.</p>	<p>MC 17.3.1</p> <p>Records of Environment Adviser training and IMS inspector qualifications (as relevant).</p>

6.8 Recovery Plan and Threat Abatement Plan Assessment

This section describes the assessment that Woodside has undertaken to demonstrate that the Petroleum Activities Program is not inconsistent with any relevant recovery plans or threat abatement plans. For the purposes of this assessment, the relevant Part 13 statutory instruments (recovery plans and threat abatement plans) are:

- Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017).
- Conservation Management Plan for the Blue Whale 2015–2025 (Commonwealth of Australia, 2015a).

- Recovery Plan for the Grey Nurse Shark (*Carcharias taurus*) 2014 (Commonwealth of Australia, 2014).
- Sawfishes and River Sharks Multispecies Recovery Plan (Commonwealth of Australia, 2015b).
- Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans 2018 (Commonwealth of Australia, 2018).

Table 6-8 lists the objectives and (where relevant) the action areas of these plans, and also describes whether these objectives/action areas are applicable to government, the Titleholder, and/or the Petroleum Activities Program. For those objectives/action areas applicable to the Petroleum Activities Program, the relevant actions of each plan have been identified, and an evaluation has been conducted as to whether impacts and risks resulting from the activity are not inconsistent with that action. The results of this assessment against relevant actions are presented in Table 6-8: Identification of Applicability of Recovery Plan and Threat Abatement Plan Objectives and Action Areas **Table 6-8** to **Table 6-12**.

Table 6-8: Identification of Applicability of Recovery Plan and Threat Abatement Plan Objectives and Action Areas

EPBC Act Part 13 Statutory Instrument	Applicable to:		
	Government	Titleholder	Petroleum Activities Program
Marine Turtle Recovery Plan			
Long-term Recovery Objective: 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	Y	Y	Y
Interim Recovery Objectives			
1. Current levels of legal and management protection for marine turtle species are maintained or improved, both domestically and throughout the migratory range of Australia's marine turtles	Y		
2. The management of marine turtles is supported	Y		
3. Anthropogenic threats are demonstrably minimised	Y	Y	Y
4. Trends in nesting numbers at index beaches and population demographics at important foraging grounds are described	Y	Y	
Action Areas			
A. Assessing and addressing threats			
A1. Maintain and improve efficacy of legal and management protection	Y		
A2. Adaptatively manage turtle stocks to reduce risk and build resilience to climate change and variability	Y		
A3. Reduce the impacts of marine debris	Y	Y	Y
A4. Minimise chemical and terrestrial discharge	Y	Y	Y
A5. Address international take within and outside Australia's jurisdiction	Y		
A6. Reduce impacts from terrestrial predation	Y		
A7. Reduce international and domestic fisheries bycatch	Y		
A8. Minimise light pollution	Y	Y	Y
A9. Address the impacts of coastal development/infrastructure and dredging and trawling	Y	Y	

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EPBC Act Part 13 Statutory Instrument	Applicable to:		
	Government	Titleholder	Petroleum Activities Program
A10. Maintain and improve sustainable Indigenous management of marine turtles	Y		
B. Enabling and measuring recovery			
B1. Determine trends in index beaches	Y	Y	
B2. Understand population demographics at key foraging grounds	Y		
B3. Address information gaps to better facilitate the recovery of marine turtle stocks	Y	Y	Y
Blue Whale Conservation Management Plan			
Long-term recovery objective: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list	Y	Y	Y
Interim Recovery Objectives			
1. The conservation status of blue whale populations is assessed using efficient and robust methodology	Y		
2. The spatial and temporal distribution, identification of BIAs, and population structure of blue whales in Australian waters is described	Y	Y	Y
3. Current levels of legal and management protection for blue whales are maintained or improved and an appropriate adaptive management regime is in place	Y		
4. Anthropogenic threats are demonstrably minimised	Y	Y	Y
Action Areas			
A. Assessing and addressing threats			
A.1: Maintain and improve existing legal and management protection	Y		
A.2: Assessing and addressing anthropogenic noise	Y	Y	Y
A.3: Understanding impacts of climate variability and change	Y		
A.4: Minimising vessel collisions	Y	Y	Y
B. Enabling and Measuring Recovery			

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EPBC Act Part 13 Statutory Instrument	Applicable to:		
	Government	Titleholder	Petroleum Activities Program
B.1: Measuring and monitoring population recovery	Y		
B.2: Investigating population structure	Y		
B.3: Describing spatial and temporal distribution and defining biologically important habitat	Y	Y	Y
Grey Nurse Shark Recovery Plan			
Overarching Objective			
To assist the recovery of the grey nurse shark in the wild, throughout its range in Australian waters, with a view to: improving the population status, leading to future removal of the grey nurse shark from the threatened species list of the EPBC Act ensuring that anthropogenic activities do not hinder the recovery of the grey nurse shark in the near future, or impact on the conservation status of the species in the future	Y	Y	Y
Specific Objectives			
1. Develop and apply quantitative monitoring of the population status (distribution and abundance) and potential recovery of the grey nurse shark in Australian waters	Y		
2. Quantify and reduce the impact of commercial fishing on the grey nurse shark through incidental (accidental and/or illegal) take, throughout its range	Y		
3. Quantify and reduce the impact of recreational fishing on the grey nurse shark through incidental (accidental and/or illegal) take, throughout its range	Y		
4. Where practicable, minimise the impact of shark control activities on the grey nurse shark	Y		
5. Investigate and manage the impact of ecotourism on the grey nurse shark	Y		
6. Manage the impact of aquarium collection on the grey nurse shark	Y		
7. Improve understanding of the threat of pollution and disease to the grey nurse shark	Y	Y	Y
8. Continue to identify and protect habitat critical to the survival of the grey nurse shark and reduce the impact of threatening processes within these areas	Y	Y	
9. Continue to develop and implement research programs to support the conservation of the grey nurse shark	Y	Y	

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EPBC Act Part 13 Statutory Instrument	Applicable to:		
	Government	Titleholder	Petroleum Activities Program
10. Promote community education and awareness in relation to grey nurse shark conservation and management	Y		
Sawfish and River Sharks Recovery Plan			
Primary Objective			
To assist the recovery of sawfish and river sharks in Australian waters with a view to: 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 that anthropogenic activities do not hinder recovery in the near future, or impact on the conservation status of the species in the future	Y	Y	Y
Specific Objectives			
1. Reduce and, where possible, eliminate adverse impacts of commercial fishing on sawfish and river shark species	Y		
2. Reduce and, where possible, eliminate adverse impacts of recreational fishing on sawfish and river shark species	Y		
3. Reduce and, where possible, eliminate adverse impacts of Indigenous fishing on sawfish and river shark species	Y		
4. Reduce and, where possible, eliminate the impact of illegal, unregulated and unreported fishing on sawfish and river shark species	Y		
5. Reduce and, where possible, eliminate adverse impacts of habitat degradation and modification on sawfish and river shark species	Y	Y	Y
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	Y	Y	Y
7. Reduce and, where possible, eliminate any adverse impacts of collection for public aquaria on sawfish and river shark species	Y		
8. Improve the information base to allow the development of a quantitative framework to assess the recovery of, and inform management options for, sawfish and river shark species	Y		

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EPBC Act Part 13 Statutory Instrument	Applicable to:		
	Government	Titleholder	Petroleum Activities Program
9. Develop research programs to assist conservation of sawfish and river shark species	Y	Y	
10. Improve community understanding and awareness in relation to sawfish and river shark conservation and management	Y		
Marine Debris Threat Abatement Plan			
Objectives			
1. Contribute to long-term prevention of the incidence of marine debris	Y	Y	
2. Understand the scale of impacts from marine plastic and microplastic on key species, ecological communities and locations	Y	Y	Y
3. Remove existing marine debris	Y		
4. Monitor the quantities, origins, types and hazardous chemical contaminants of marine debris, and assess the effectiveness of management arrangements for reducing marine debris	Y		
5. Increase public understanding of the causes and impacts of harmful marine debris, including microplastic and hazardous chemical contaminants, to bring about behaviour change	Y		

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Table 6-9: Assessment against relevant actions of the Marine Turtle Recovery Plan

Part 13 Statutory Instrument	Relevant Action Areas/Objectives	Relevant Actions	Evaluation	EPO, Controls and PS
Marine Turtle Recovery Plan	Action Area A3: Reduce the impacts from marine debris	Action: Support the implementation of the Marine Debris Threat Abatement Plan (TAP) <u>Priority actions at stock level:</u> G-NWS – Understand the threat posed to this stock by marine debris LH-WA – Determine the extent to which marine debris is impacting loggerhead turtles F-Pil – no relevant actions	Refer Section 6.7.1 Not inconsistent assessment: The assessment of the accidental release of solid hazardous and non-hazardous wastes has considered the potential risks to marine turtles. Controls have been implemented to reduce the likelihood of accidental release of solid wastes for the duration of the Petroleum Activities Program.	EPO 10 C 10.1-10.4, C 9.5 PS 10.1-10.3, PS 9.5
	Action Area A4: Minimise chemical and terrestrial discharge	Action: Ensure spill risk strategies and response programs adequately include management for marine turtles and their habitats, particularly in reference to 'slow to recover habitats', e.g. nesting habitat, seagrass meadows or coral reefs <u>Priority actions at stock level:</u> G-NWS – Ensure that spill risk strategies and response programs include management for turtles and their habitats LH-WA & F-Pil – Ensure that spill risk strategies and response programs include management for turtles and their habitats, particularly in reference to slow to recover habitats, e.g. seagrass meadows or corals	Refer Sections 6.6.5, 6.7 and 6.8 Not inconsistent assessment: The assessment of accidental release of chemicals / hydrocarbons has considered the potential risks to marine turtles. Spill risk strategies and response program include management measures for turtles and their nesting habitats.	Refer Section 6.6.5, 6.7 and 6.8 Detailed oil spill preparedness and response EPOs, EPSs and MC for the Petroleum Activities Program are present in Appendix H

Part 13 Statutory Instrument	Relevant Action Areas/Objectives	Relevant Actions	Evaluation	EPO, Controls and PS
	Action Area A8: Minimise light pollution	Action: 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 <u>Priority actions at stock level:</u> G-NWS – as above LH-WA – no relevant actions F-Pil – Manage artificial light from onshore and offshore sources to ensure biologically important behaviours of nesting adults and emerging/dispersing hatchlings can continue	Refer Sections 6.6.8 Not inconsistent assessment: The assessment of light emissions has considered the potential impacts to marine turtles. Internesting, mating, foraging or migrating turtles are not impacted by light from offshore vessels. Based on the frequency and nature of IMMR activities, the impacts to adult turtles moving through the Operational Area from vessel lighting are expected to be localised and temporary with no lasting effect.	EPO 8 C 8.1 PS 8.1
	Action Area B1: Determine trends at index beaches	Action: Maintain or establish long-term monitoring programs at index beaches to collect standardised data critical for determining stock trends, including data on hatchling production <u>Priority actions at stock level:</u> G-NWS – Continue long-term monitoring of index beaches LH-WA – Continue long-term monitoring of nesting and foraging populations F-Pil – no relevant actions	Not inconsistent assessment: Woodside contributes to Action Area B1 via its support of the Ningaloo Turtle Program.	N/A

Part 13 Statutory Instrument	Relevant Action Areas/Objectives	Relevant Actions	Evaluation	EPO, Controls and PS
	<p>Action Area B3: Address information gaps to better facilitate the recovery of marine turtle stocks</p>	<p>Action: Understand the impacts of anthropogenic noise on marine turtle behaviour and biology <u>Priority actions at stock level:</u> G-NWS – Given this is a relatively accessible stock that is likely to be exposed to anthropogenic noise – Investigate the impacts of anthropogenic noise on turtle behaviour and biology and extrapolate findings from the NWS stock to other stocks LH-WA – no relevant actions F-Pil – no relevant actions</p>	<p>Refer Sections 6.6.3 Not inconsistent assessment: The assessment of acoustic emissions has considered the potential impacts to marine turtles. IMMR related noise is not expected to result in behavioural response, injury or mortality of individuals, or any other lasting effect.</p>	<p>EPO 3 C 3.1 PS 3.1</p>
<p>Assessment Summary The Marine Turtle Recovery Plan has been considered during the assessment of impacts and risks, and the Petroleum Activities Program is not considered to be inconsistent with the relevant actions of this plan.</p>				

Table 6-10: Assessment against relevant actions of the Blue Whale Conservation Management Plan

Part 13 Statutory Instrument	Relevant Action Areas/Objectives	Relevant Actions	Evaluation	EPO, Controls and PS
Blue Whale Conservation Management Plan	Action Area A.2: Assessing and addressing anthropogenic noise	Action 2: Assessing the effect of anthropogenic noise on blue whale behaviour Action 3: Anthropogenic noise in BIAs will be managed such that any blue whale continues to use the area without injury ² , and is not displaced from a foraging area	Refer Sections 6.6.3 Not inconsistent assessment: The assessment of acoustic emissions has considered the potential impacts to pygmy blue whales. Acoustic emissions from project vessels will not cause injury to any pygmy blue whale. There are no known or possible foraging areas for pygmy blue whales within or adjacent to the Operational Area. If the Petroleum Activities Program within the Operational Area overlaps with an individual northbound or southbound migration, they may deviate slightly from the migratory route, but will continue on their migration.	EPO 3 C 3.1 PS 3.1
	Action Area A.4: Minimising vessel collisions	Action 3: Ensure the risk of vessel strikes on blue whales is considered when assessing actions that increase vessel traffic in areas where blue whales occur and, if required, appropriate mitigation measures are implemented	Refer Section 6.7.7 Not inconsistent assessment: The assessment of vessel collision with marine fauna has considered the potential risks to pygmy blue whales. If the Petroleum Activities Program within the Operational Area overlaps with an individual northbound or southbound migration, they may deviate slightly from the migratory route, but will continue on their migration. Vessel collisions with pygmy blue whales are highly unlikely to occur, given the low operating speed of support vessels.	EPO 11 C 11.1 PS 11.1
	Action Area B.3: Describing spatial and temporal distribution and defining biologically important habitat	Action 2: Identify migratory pathways between breeding and feeding grounds Action 3: Assess timing and residency within BIAs	Not inconsistent assessment: Woodside contributes to Action Area B3 via its support of targeted research initiatives (e.g. satellite tracking of pygmy blue whale migratory movements ³).	N/A

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Part 13 Statutory Instrument	Relevant Action Areas/Objectives	Relevant Actions	Evaluation	EPO, Controls and PS
<p>Assessment Summary</p> <p>The Blue Whale Conservation Management Plan has been considered during the assessment of impacts and risks, and the Petroleum Activities Program is not considered to be inconsistent with the relevant actions of this plan.</p>				

Table 6-11: Assessment against relevant actions of the Grey Nurse Shark Recovery Plan

Part 13 Statutory Instrument	Relevant Action Areas/Objectives	Relevant Actions	Evaluation	EPO, Controls and PS
<p>Grey Nurse Shark Recovery Plan</p>	<p>Objective 7: Improve understanding of the threat of pollution and disease to the grey nurse shark</p>	<p>Action 7.1: Review and assess the potential threat of introduced species, pathogens and pollutants</p>	<p>Refer Section 6.7.1 Not inconsistent assessment: This EP includes an assessment of the impacts from accidental release of solid wastes as well as planned discharges of drilling waste on marine species.</p>	<p>N/A</p>
			<p>Refer Sections 6.6.5, 6.7 and 6.8 Not inconsistent assessment: The assessment of accidental release of chemicals / hydrocarbons has considered the potential risks to grey nurse sharks. Spill risk strategies and response program include management measures, as identified and required.</p>	<p>Refer Sections 6.6.5, 6.7 and 6.8 Detailed oil spill preparedness and response EPOs, EPSs and MC for the Petroleum Activities Program are present in Appendix H</p>
<p>Assessment Summary The Grey Nurse Shark Recovery Plan has been considered during the assessment of impacts and risks, and the Petroleum Activities Program is not considered to be inconsistent with the relevant actions of this plan.</p>				

Table 6-12: Assessment against relevant actions of the Sawfish and River Shark Recovery Plan

Part 13 Statutory Instrument	Relevant Action Areas/Objectives	Relevant Actions	Evaluation	EPO, Controls and PS
Sawfish and River Shark Recovery Plan	Objective 5: Reduce and, where possible, eliminate adverse impacts of habitat degradation and modification on sawfish and river shark species	Action 5c: Identify risks to important sawfish and river shark habitat and measures needed to reduce those risks	Refer Sections 6.6.5, 6.7 and 6.8 Not inconsistent assessment: The assessment of accidental release of chemicals / hydrocarbons has considered the potential risks to sawfish and river shark. Spill risk strategies and response program include management measures, as identified and required.	Refer Sections 6.6.5, 6.7 and 6.8 Detailed oil spill preparedness and response EPOs, EPSs and MC for the Petroleum Activities Program are present in Appendix H
	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	Action 6a: Assess the impacts of marine debris including ghost nets, fishing gear and plastics on sawfish and river shark species	Refer Section 6.7.1 Not inconsistent assessment: The assessment of the accidental release of solid hazardous and non-hazardous wastes has considered the potential risks to sawfish. Controls have been implemented to reduce the likelihood of accidental release of solid wastes for the duration of the Petroleum Activities Program.	N/A

Assessment Summary

The Sawfish and River Shark Recovery Plan has been considered during the assessment of impacts and risks, and the Petroleum Activities Program is not considered to be inconsistent with the relevant actions of this plan.

Table 6-13: Assessment against relevant actions of the Marine Debris Threat Abatement Plan

Part 13 Statutory Instrument	Relevant Action Areas/Objectives	Relevant Actions	Evaluation	EPO, Controls and PS
<i>Marine Debris TAP</i>	Objective 2: Understand the scale of marine plastic and microplastic impact on key species, ecological communities and locations	Action 2.04: Build understanding related to plastic and microplastic pollution	Refer Section 6.6.6 Not inconsistent assessment: The assessment of the accidental release of solid hazardous and non-hazardous wastes has considered the potential risks to the marine environment. Controls have been implemented to reduce the likelihood of accidental release of solid wastes for the duration of the Petroleum Activities Program.	N/A
<p>Assessment Summary The Marine Debris TAP has been considered during the assessment of impacts and risks, and the Petroleum Activities Program is not considered to be inconsistent with the relevant actions of this plan.</p>				

6.9 Cultural Features and Heritage Values Assessment

As described in **Section 4.9.1**, the identification of cultural values associated with cultural heritage as well as the social, economic and cultural features important to First Nation’s people is integral to understanding the environment and any potential impacts and risks to the environment.

In line with its First Nations Communities Policy (Woodside, 2022), Woodside seeks to avoid damage or disturbance to cultural heritage (including intangible heritage) and, if avoidance is not possible, minimise and mitigate the impacts, in consultation with First Nation communities and Traditional Custodians. Mitigation can include any measure or control aimed at ensuring the viability of the intangible cultural heritage and its intergenerational transmission. This can include reducing impacts and risks to environmental features that are associated with intangible cultural heritage (UNESCO, 2003; ICOMOS, 2013).

It is important to note that not all topics raised by First Nations groups/individuals through consultation are considered values for the purpose of the cultural features and heritage values impact assessment below. A number of topics were raised as a general interest in environmental management and ecosystem health, where the group/individual was seeking further information about potential impacts and risks from the Petroleum Activities Program on the receptor. As these interests relate to the maintenance of the natural environment, these are adequately addressed through impact and risk assessments described in **Sections 6.6** and **6.7** and not further assessed below.

Aspect	Cultural Features and Heritage Values				
Description of Source Impact/ Risk	<p>The physical presence of subsea infrastructure (production wells, and exploration wells with wellheads), as well as the physical presence of vessels and associated movements in the Operational Area, have the potential to impact or be a risk to cultural features and heritage values.</p> <p>The Macedon field production system has been in operation since 2013 and has been marked on nautical charts since that time. Inspection, monitoring, maintenance and repair activities may also be conducted on any of the infrastructure within in Production Licence Areas WA-42-L and WA-23-PL.</p> <p>The Petroleum Activities Program includes production from a series of subsea wells. The worst-case credible hydrocarbon spill scenario described in Section 6.7.2 forms the basis of the EMBA.</p>				
Receptor sensitivity	<p>Cultural features and heritage values: High value</p> <p>Marine mammals: High value species</p> <p>Marine reptiles: High value species</p> <p>Fish: High value species</p>				
Planned Activities	<p>The potential environmental impact due to planned activities to species that have a cultural feature or heritage value have been summarised below to provide the context of a potential impact significance level to those species to understand any cumulative impact on the cultural feature or heritage value.</p>				
	Aspect		Severity Level		
	<i>Environmental impact assessment to marine species</i>		<i>Marine mammals</i>	<i>Marine reptiles</i>	<i>Fish</i>
	6.6.3 Routine Acoustic Emissions: Generation of Noise during Routine Operations		Minor	Minor	Minor
	6.6.4 Routine and Non-routine Discharges: Discharge of Hydrocarbons and Chemicals During Subsea Operations and Activities		Minor	Minor	Minor
	6.6.5 Routine and Non-routine Discharges: Discharge of Sewage, Putrescible Waste, Greywater, Bilge Water, Drain Water, Cooling Water and Brine		Minor	Minor	Minor
6.6.6 Routine and Non-Routine Atmospheric and GHG Emissions		Minor	Minor	Minor	

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Aspect	Cultural Features and Heritage Values				
	6.6.7 Routine Light Emissions: Light Emissions from Vessel Operations	Minor	Minor	Minor	
Unplanned Activities	The potential environmental risk due to unplanned activities to species that have a cultural feature or heritage value have been summarised below to provide the context of a potential impact significance level to those species to understand any cumulative impact on the cultural feature or heritage value				
	Aspect		Risk Rating		
	Environmental risk assessment to marine species		Marine mammals	Marine reptiles	Fish
	6.7.2 Unplanned Hydrocarbon Release: Vessel collision		3	3	3
	6.7.3 Unplanned Hydrocarbon Release: Loss of Well Containment		0.9	0.9	0.9
	6.7.4 Unplanned Hydrocarbon Release: Subsea infrastructure		3	3	3
	6.7.5 Unplanned Discharges: Hazardous and Non-hazardous Waste Management		1	1	1
	6.7.6 Physical Presence: Seabed Disturbance from Dropped Objects		1	1	1
	6.7.7 Physical Presence: Vessel Collision with Marine Fauna		0.9	0.9	0.9
6.7.8 Physical Presence: Introduction of Invasive Marine Species		9	9	9	
Impact and Risk Assessment	<p>The Petroleum Activities Program has the potential to impact cultural features and heritage values through the following ways:</p> <p><u>Intangible Cultural Heritage</u></p> <ul style="list-style-type: none"> • Songlines: Songlines can become lost, fragmented, or broken when there is a loss of Country or forced removal from Country (Neale and Kelly, 2020:30). Physical sites that have been identified as comprising a component of a songline are important to protect to prevent the fragmenting or breaking apart of songlines and loss of sacred cultural knowledge. It is noted that oil and gas infrastructure exists in many areas of the North West Shelf, and that songlines are still acknowledged and recognised. It is inferred that if there were to be any impacts to surviving songlines these would be significantly more likely to be described as qualitative (i.e. “weaken” a songline) rather than binary or absolute (i.e. destroy a songline). • Creation/dreaming sites; sacred sites; ancestral beings: Activities that physically alter landscape features may be assumed to potentially impact values of creation/dreaming sites, sacred sites or ancestral beings. • Cultural obligations to care for Country: Environmental impacts may be assumed to impact rights and obligations to care for Sea Country. Exclusion of Traditional Custodians from Sea Country (e.g. by restricting access) or decision-making processes (e.g. by not conducting ongoing consultation) are other potential sources of impact. • Knowledge of Country/customary law and transfer of knowledge: Direct impact to communities practicing these skills will inherently occur when relevant aspects of the environment disappear, are displaced or suffer a reduction in population. Therefore, the transmission of these skills is expected to be impacted where there are impacts at the species/population level. Limitations on access to sites or disruption/relocation of First Nations communities may have implications for the preservation of First Nations knowledge. • Connection to Country: Where people are displaced or disrupted (e.g. during colonisation) or where there is a loss of technical skills or environmental knowledge this may damage connection to Country (McDonald and Phillips, 2021). • Access to Country: Impacts to access to Country may be classified as temporary (e.g. where exclusion zones exist around activities for safety reasons) or permanent (e.g. where infrastructure obstructs access or navigation). Impacts to access to Country can only occur in 				

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Aspect	Cultural Features and Heritage Values
	<p>areas that were traditionally accessed by Traditional Custodians. As described in Section 4.9.1 this is anticipated to be focussed on areas adjacent to the coast.</p> <ul style="list-style-type: none"> Restrictions on Access to Country: Access to the operational area has not been identified as a cultural issue, however some areas within the EMBA may not be culturally appropriate to access. Impacts to this value may occur where spill response access areas that are not appropriate, or in ways that are not consistent with traditional law. Kinship systems and totemic species: It is assumed that marine species may have kinship/totemic relationships to Traditional Custodians, but it is understood that these relationships do not prohibit people outside of that “skin group” from hunting or eating that same species (Juluwarlu, 2004). It is therefore inferred that the management of totemic or kinship species applies at the species/population level and not to individual plants and animals. Resource collection: Direct impact to communities using these resources will inherently occur when the resource disappears, is displaced or suffers a reduction in population. Therefore, marine species (as resources) will be impacted where there is an impact at the species/population level. <p><u>Marine Ecosystems and Species:</u></p> <ul style="list-style-type: none"> Marine ecosystems may hold both cultural and environmental value with cultural and environmental values intrinsically linked (DCCEEW, 2023). It necessarily follows that an impact to marine ecosystems has the potential to impact cultural features where the impact is detectable within Sea Country—the seascape which Traditional Custodians view, interact with or hold knowledge of. <p><u>Coastal landforms</u></p> <ul style="list-style-type: none"> Coastal landforms may have cultural values either through association with intangible values described above (e.g. as features of a songline, physical manifestations of ancestor beings etc.) or as archaeologically prospective locations (e.g. water sources with increased habitation/use, dunes used for burials etc.) <p>Intangible Values</p> <p><u>Songlines</u></p> <p>Management of intangible cultural heritage can include reducing impacts and risks to tangible features that are associated with intangible cultural heritage (UNESCO, 2003; ICOMOS, 2013). Impacts to marine plants, animals and other cultural features associated with songlines might impact the intergenerational transmission of knowledge of songlines when individuals can no longer witness or interact with the cultural features tied to songlines on Country. Therefore, managing songlines may require environmental controls to minimise potential impact to marine fauna at a population level, including migratory routes. Refer to species specific assessment below for further information, in addition to the impact and risk assessment in Section 6.6 and 6.7 respectively.</p> <p>Physical features comprising a component of a songline are important to protect to prevent the fragmenting or breaking apart of songlines and loss of sacred cultural knowledge. Songlines can become lost, fragmented, or broken when there is a loss of Country or impact to culturally important physical features (Neale and Kelly, 2020:30). No specific details of songlines within the EMBA have been provided by relevant persons during consultation for this Activity, and no landforms typical of songlines (e.g. rocks, mountains, rivers, caves and hills (Higgins 2021:724)) are anticipated to be impacted by the Activity.</p> <p><u>Creation/Dreaming Sites; Sacred Sites; Ancestral Beings</u></p> <p>Woodside has undertaken all reasonable steps to identify creation and dreaming sites, sacred sites, and places associated with ancestral beings within the EMBA. No such sites have been identified. A review of relevant literature has been undertaken which has identified creation, dreaming and ancestral narratives related to the sea more broadly without confirming where (if anywhere) these overlap the EMBA. These references are of a general nature, and do not identify any features or values requiring specific protection or management from the proposed activities.</p> <p>In the literature reviewed, sea serpents or water serpents are common in Aboriginal creation narratives, and several references were identified. The majority of these refer to serpents residing within inland rivers or pools outside of the EMBA (Hayes v Western Australia [2008] FCA 1487, Juluwarlu, 2004). In some versions, the serpent originates from the sea or coast and creates the rivers as it heads inland. Areas of the current coastline and past coastlines at various points along the Ancient Landscape—where the Serpent would have emerged onto the land—are within the EMBA. Areas of the broader ocean where the serpent may have originally lived are not specified. Consultation with Traditional Custodians has not identified impacts on sea serpents from the Petroleum Activities Program. However, by analogy to other water serpent narratives across</p>

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Aspect	Cultural Features and Heritage Values
	<p>Australia, possible impact pathways may include interruption of its path by blocking or reducing flows of water, damaging sacred sites such as thalu or rock art sites or depleting water sources. No impacts to water flows (either tidal movement or ocean currents) or depletion of water sources are anticipated from this Petroleum Activities Program.</p> <p><u>Cultural Obligations to Care for Country</u></p> <p>Caring for Country collectively refers to the cultural obligations of individuals and groups, as well as rituals and ceremonies required for the physical and spiritual health of the environment. Lack of access to coastally located cultural sites that carry songlines or remain ceremonially important can impact First Nations people’s livelihoods and impact their ability to carry out cultural obligations on Country.</p> <p><u>Knowledge of Country/Customary Law and Transfer of Knowledge</u></p> <p>Cultural knowledge about Sea Country/customary law and the intergenerational transmission of knowledge are important values identified through consultation, assessments and the literature review. Transfer of knowledge includes continuing traditional practices to pass on practical skills. Direct impact to communities practicing these skills will inherently occur when relevant aspects of the environment disappear, are displaced or suffer a reduction in population—for example traditional fishing methods require the survival of traditional fish resources. Therefore, ensuring the transmission of cultural knowledge may require environmental controls protecting species and migratory pathways at a population level. Refer to species specific assessment below for further information, in addition to the impact and risk assessments in Section 6.6 and 6.7.</p> <p><u>Connection to Country</u></p> <p>Connection to Country describes the multi-faceted relationship between First Nations people and the landscape, which is envisioned as having personhood and spirit. No impacts to connection to country are anticipated as a result of exclusion or displacement of Aboriginal communities. Access to Country is discussed below.</p> <p><u>Access to Country</u></p> <p>Access to Country, including Sea Country, is necessary for the continuation of other values including caring for Country and the transfer of traditional knowledge. Access is also a value in its own right, as a continuation of traditional Sea Country access and use.</p> <p>Access to areas within the Operational Area may be limited where exclusion zones are established around vessels for safety purposes. Further the exclusion zones around drilling activities are temporary and presence of subsea infrastructure are not anticipated to affect navigation, particularly given the water depth. Access to Country within the EMBA is also not expected to be affected in the highly unlikely event of an unplanned hydrocarbon release. However relevant cultural authorities will be engaged in the event of a spill that may affect them, as specified in Appendix I.</p> <p><u>Restrictions on Access to Country</u></p> <p>No information was received which suggested any part of the Operational Area cannot be accessed in a culturally appropriate way. However, some areas of the EMBA may be subject to cultural restrictions on access, or may be culturally dangerous to access in any respect. Access to these areas would only be required in response to an unplanned impact.</p> <p><u>Kinship Systems and Totemic Species</u></p> <p>Individuals may have kinship to specific species (Smyth, 2008; Juluwarlu, 2004) and/or a responsibility to care for species (Muller, 2008). These relationships are understood to impose obligations on Traditional Custodians. It is understood that these obligations do not impose restrictions on other people generally, but it is considered that impacts to species at a population level may inhibit Traditional Custodians with kinship relationships’ ability to perform their obligations where this results in reduced or displaced populations. It is therefore considered that the management of totemic or kinship species applies at the species/population level and not to individual plants and animals. As such, impacts to individual marine fauna is not expected to impact on the totemic or kinship cultural connection. Refer to species specific assessment below for further information, in addition to the impact and risk assessments in Section 6.6 and 6.7.</p> <p><u>Resource Collection</u></p> <p>A number of marine species are identified through consultation and literature as important resources, particularly as food sources. In addition to their immediate value as sustenance, the gathering and preparation of these resources are informed by cultural knowledge, and an inability to use these resources may result in a loss of ability to transfer that knowledge to future generations. Direct impact to communities using these resources will inherently occur when the resource disappears, is displaced or suffers a reduction in population. Therefore, these</p>

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Aspect	Cultural Features and Heritage Values
	<p>communities may be impacted where there is an impact at the species/population level. Refer to species specific assessment below for further information, in addition to the impact assessments in Section 6.6 and 6.7.</p> <p>Relevant cultural authorities will be engaged in the event of a spill that may affect them, as specified in Appendix I.</p> <p>Marine Species</p> <p><u>Marine Mammals</u></p> <p>There are increase ceremonies/rituals for species of animals and plants, important to First Nations, to enhance or maintain populations. Thalu are places where these increase ceremonies are performed. All mentions of active ceremonial sites were confined to onshore locations, though the values may extend offshore where, for example, the thalu relates to marine species populations. As thalu ceremonies are performed to maintain and increase populations of marine species, it is considered that management applies at the species/population level and not to individuals.</p> <p>Related intangible cultural heritage may include the transmission of cultural knowledge about whales and whale behaviour, including birthing areas, whale communication and migratory patterns. Such cultural knowledge may be associated with various cultural functions and activities that support the social and economic life of a community (Fijn, 2021). First Nations groups have expressed interest about whales (Section 4.9.1.8). Inter-generational transmission of cultural knowledge (including songlines) relating to marine mammals may be impacted where changes to population or behaviour at a population level results in reduced sightings (e.g. through population decline, changes to migration routes or changes to migration seasonality). This transfer of knowledge may be integral to managing a group’s intangible cultural heritage (UNESCO, 2003).</p> <p>As described in the relevant environmental impact and risk assessments Section 6.6 and 6.7, potential impacts to whales are limited to behavioural disturbance to transient individuals, which are not considered to be ecologically significant at a population level, and hence not expected to impact the value of marine mammals, including the transmission of cultural knowledge. The Operational Area does overlap the BIAs for Migration Humpback Whale. As such, cultural values and intangible cultural heritage associated with these species are expected to be maintained.</p> <p><u>Marine Reptiles</u></p> <p>Turtles and their eggs have been identified through consultation and existing literature as an important resource, particularly as food sources. Direct impact to communities using these resources will inherently occur when the resource disappears, is displaced or suffers a reduction in population. Therefore, these species (as resources) will be impacted where there is an impact at the species/population level.</p> <p>Intangible cultural heritage may also include the transmission of cultural knowledge about marine reptiles, such as nesting areas, hunting areas and migratory patterns. Such cultural knowledge may be associated with various cultural functions and activities that support the social and economic life of a community (Fijn, 2021). First Nations groups have expressed an interest regarding turtle monitoring programs and migration patterns. Activities that impact turtle populations and their marine environment may have an indirect impact on some First Nations communities as this can limit access to cultural sites or deplete hunting areas that would threaten local food security (Delisle et al., 2018:251). Inter-generational transmission of cultural knowledge (including songlines) relating to marine reptiles may be impacted where changes results in reduced sightings (e.g. through population decline, changes to migration routes or changes to migration seasonality). This transfer of knowledge may be integral to managing a group’s intangible cultural heritage (UNESCO, 2003).</p> <p>As described in the relevant environmental impact and risk assessments in Section 6.6 and 6.7, potential impacts to marine reptiles are predicted to be at an individual level, which are not considered to be ecologically significant at a population level. Impacts will not occur to significant proportions of the populations of the species, nor result in a decrease of the quality of the habitat such that the extent of these species is likely to decline. Further, the Operational Area and EMBA do overlap marine turtle BIAs. As such, cultural values and intangible cultural heritage associated with these species are expected to be maintained.</p> <p><u>Fish</u></p> <p>Fish have been identified through consultation and existing literature as an important resource, particularly as food sources. Direct impact to communities using these resources will inherently occur when the resource disappears, is displaced or suffers a reduction in population. Therefore, these species (as resources) will be impacted where there is an impact at the species/population level.</p>

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Aspect	Cultural Features and Heritage Values
	<p>During consultation, fish were identified as important. Inter-generational transmission of cultural knowledge relating to fish may be impacted where changes to population/behaviour results in reduced sightings (e.g. through population decline). This transfer of knowledge may be integral to managing a group’s intangible cultural heritage (UNESCO, 2003). Intangible cultural heritage associated with fish, including inter-generational knowledge regarding fishing techniques and migratory patterns, can be managed by reducing impacts to fish in nearshore marine environments to which this cultural knowledge is intrinsically connected.</p> <p>As described in the relevant environmental impact and risk assessments in Section 6.6 and 6.7 it is expected that fish, sharks and rays may demonstrate avoidance or attraction behaviour however, potential impacts are not considered to be ecologically significant at a population level. The Operational Area and EMBA do not overlap any whale shark BIAs. As such, cultural values and intangible cultural heritage associated with these species are expected to be maintained.</p> <p><u>Benthic habitats (seagrass)</u></p> <p>Through consultation, First Nations groups identified benthic habitats as valuable for their ecological values, particularly seagrass providing a food source for dugongs.</p> <p>As described in the relevant environmental impact and risk assessments in Section 6.6 and 6.7, the potential impacts from the Petroleum Activities Program on benthic habitats is assessed to result in no lasting effect.</p> <p>In terms of risk, as described in Section 6.6 and 6.7 a change in habitat may occur due to a change in water or sediment quality following an unplanned hydrocarbon release. Given hydrocarbon characteristics, rapid weathering, short-term exposure, as well as the response strategies planned to be deployed, an unplanned release is not expected to result in a level of exposure to seagrass that would cause an adverse impact on marine ecosystem functioning or integrity results. As such, cultural values and intangible cultural heritage associated with benthic habitats are expected to be maintained.</p> <p><u>Shoreline Habitats (coastal vegetation, mangroves)</u></p> <p>The desktop literature review identified that mangroves are valued for the flora and fauna they are associated with and support (Commonwealth of Australia 2002).</p> <p>There is no overlap between the Operational Area and shoreline habitats, and no planned impacts to shoreline habitats from the Petroleum Activities Program. In terms of risk, as described in Section 6.6 and 6.7, a change in habitat may occur due to a change in water or sediment quality following an unplanned hydrocarbon release. Given hydrocarbon characteristics, rapid weathering, as well as the response strategies planned to be deployed, an unplanned release is not expected to have a substantial adverse impact on marine ecosystem functioning or integrity. As such, cultural values and intangible cultural heritage associated with shoreline habitats are expected to be maintained.</p> <p>Coastal Landforms</p> <p>There is no overlap between the Operational Area and coastal landforms, and no planned impacts to coastal landforms from the Petroleum Activities Program. For coastal landforms beyond the Operational Area, the EMBA is driven by an unplanned hydrocarbon release. There is no anticipated impact pathway from the presence of marine diesel on the physical existence of coastal landforms such as hills, waterways or dune systems. Access to Country within the EMBA is also not expected to be affected in the highly unlikely event of an unplanned hydrocarbon release. However relevant cultural authorities will be engaged in the event of a spill that may affect them.</p> <p>As such, cultural values and intangible cultural heritage associated with shoreline habitats are expected to be maintained.</p> <p>Conclusion</p> <p>The impact and risk assessment has determined that the planned activities are unlikely to result in an impact greater than negligible⁴⁷ (F) and unplanned activities are assessed to have a residual risk rating of moderate (or lower).</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3 of this EP).</p>

⁴⁷ Noting that as the receptor sensitivity is high, the impact significance level is Slight (E).

Demonstration of ALARP				
Control considered	Feasibility (F) & Cost/Sacrifice (Cs)	Benefit in Impact/Risk Reduction	Proportionality	Adopted
Apply a 'living heritage' ⁴⁸ management approach. Woodside seeks advice and incorporates Traditional Custodian cultural knowledges across our activities. Cultural safety considerations are factored for our workforce and the Traditional Custodian community.	F: Yes. CS: Minimal.	Implementation of the 'living heritage' approach pays acknowledgement and respect to Traditional Custodian communities. It supports the transfer of cultural knowledges and is an effective strategy to manage intangible cultural values.	Benefits outweigh cost/sacrifice.	Yes C 18.1
C 3.1 EPBC Regulations 2000 – Part 8 Division 8.1 Interacting with cetaceans, including the following measures ⁴⁹ : <ul style="list-style-type: none"> Project vessels will not travel greater than 6 knots within 300 m of a cetacean (caution zone) and not approach closer than 100 m from a whale. Project vessels will not approach closer than 50 m for a dolphin and/or 100 m for a whale (with the exception of animals bow riding). If the cetacean shows signs of being disturbed, project vessels will immediately withdraw from the caution zone at a constant speed of less than 6 knots. 	F: Yes. CS: Minimal.	Implementation of controls for reduced vessel speed around marine fauna can potentially reduce the underwater noise footprint of a vessel and reduces the likelihood of impact or influence on whale activity. Where this control prevents impacts to whales at a population level, it maintains a culturally significant resource to a level that results in no observable change to coastal communities (migratory pathways maintained).	Benefits outweigh cost/sacrifice.	Yes C3.1

⁴⁸ Living heritage supports community and individual identity. Intangible cultural heritage is 'living heritage' that is inherited from ancestors and passed on to their descendants. It is comprised of many influences, including oral traditions, art, social practices, rituals and ceremonies, cultural knowledge and practices. It is transmitted from generation to generation, and evolves in response to the environment. Woodside applies a 'living heritage' approach to its cultural heritage management. This includes ensuring that Traditional Custodians are given voice to identify interests, transmit information and express concerns. Woodside works with Traditional Custodians to support and follow appropriate cultural protocols, including calling to Country, conducting smoking ceremonies (in areas where this custom is appropriate) and undertaking cultural awareness.

⁴⁹ For safety reasons, the distance requirements below are not applied for a vessel holding station or with limited manoeuvrability; e.g. anchor handling, loading, back-loading, bunkering, close standby cover for overside working and emergency situations.

Demonstration of ALARP				
Control considered	Feasibility (F) & Cost/Sacrifice (Cs)	Benefit in Impact/Risk Reduction	Proportionality	Adopted
Should it be identified, that relevant cultural authorities may be affected in the unlikely event of a spill, Woodside will engage with those parties as appropriate and in alignment with the Oil Pollution First Strike Plan.	F: Yes. CS: Minimal.	Engaging with relevant cultural authorities that may be impacted by a spill will allow the Traditional Custodians to identify areas of concern. This will also allow Traditional Custodians to confirm areas where access is not culturally appropriate so these can be considered for avoidance, or advice of the necessary requirements to access such areas (such as the gender of respondents or necessary ceremonies).	Benefits outweigh cost/sacrifice.	Yes Adopted, see Appendix I

As marine ecosystems may hold both cultural and environmental value (see **Section 4.9**), with cultural and environmental values intrinsically linked, in addition to the above controls, the controls in **Section 6.6** and **6.7** will reduce impacts to cultural features and heritage values.

ALARP Statement

On the basis of the impact and risk assessment outcomes and use of the relevant tools appropriate to the decision type (i.e. Decision Type A). Woodside considers the adopted controls appropriate to manage the potential impacts and risks to cultural features and heritage values. As no reasonable additional/alternative controls were identified that would further reduce the impacts without grossly disproportionate sacrifice, the impacts are considered ALARP.

Demonstration of Acceptability

Acceptability Statement:

The impact and risk assessment has determined that, given the adopted controls, planned activities are unlikely to result in an impact greater than negligible (F)⁵⁰ and unplanned activities are assessed to have a residual risk rating of moderate (or lower).

The Petroleum Activities Program and the EMBA do not overlap the Ancient Landscape and they are not anticipated to have a significant impact on MNES (**Section 4.3**) including marine fauna with a First Nations connection, or traditional use in nearshore areas as defined in **Section 4.9.1**. Woodside has engaged with Traditional Custodians adjacent to the EMBA to understand the cultural features and heritage values that may occur and potential impacts from the activity. Further opportunities to reduce the impacts have been investigated above. The potential impacts and risks are considered acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks to cultural features and heritage values to a level that is acceptable if ALARP.

Environmental Performance Outcomes, Standards and Measurement Criteria related to Cultural Features and Heritage Values⁵¹

EPO	Adopted Control(s)	EPS	MC
EPO 18 No Impact to cultural features and heritage	C 18.1 Apply a 'living heritage management approach.	PS 18.1.1 Woodside will continue to give voice to Traditional	MC 18.1.1 Records demonstrate Change Management

⁵⁰ Noting that as the receptor sensitivity is high the impact significance level is Slight (E).

⁵¹ As marine ecosystems may hold both cultural and environmental value (see Section 4.9.1), with cultural and environmental values intrinsically linked, in addition to the specific controls for cultural features and heritage values, the controls and performance standards in section 6.7 and 6.8 will reduce impacts to cultural features and heritage values.

Environmental Performance Outcomes, Standards and Measurement Criteria related to Cultural Features and Heritage Values⁵¹			
<i>EPO</i>	<i>Adopted Control(s)</i>	<i>EPS</i>	<i>MC</i>
values greater than a consequence level of F from the PAP	Woodside seeks advice and incorporates Traditional Custodian cultural knowledge across our activities. Cultural safety considerations are factored for our workforce and the Traditional Custodian community.	Custodians to identify interests, transmit information and express concern	and Management of Knowledge processes have been followed where new controls or management
		PS 18.1.2 Woodside will assess and where deemed practicable will implement appropriate cultural protocols by Traditional Custodians	MC 18.1.2 Records demonstrate Woodside implemented cultural protocols as requested.

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7. IMPLEMENTATION STRATEGY

7.1 Overview

Regulation 22 of the Environment Regulations requires an EP to contain an implementation strategy for the activity. The implementation strategy for the PAP confirms fit-for-purpose systems, practices and procedures are in place to direct, review and manage the activities so that environmental risks and impacts are continually being reduced to ALARP and are acceptable, and that EPOs and EPSs outlined in this EP are achieved.

Woodside, as Operator, is responsible for ensuring that the PAP is managed in accordance with this implementation strategy and the Woodside PetDW Management System (see **Section 1.9**).

7.2 Systems, Practice and Procedures

All operational activities are planned and carried out in accordance with relevant legislation and internal environment standards and procedures identified in this EP (**Section 5**).

Processes are implemented to verify controls to manage environmental impacts and risks to:

- a level that is ALARP and acceptable
- meet EPOs
- comply with EPSs defined in this EP.

The systems, practices and procedures that will be implemented are listed in the EPSs contained in this EP. Document names and reference numbers may be subject to change during the statutory duration of this EP; this is managed through a change register and management of change (MoC) process (**Section 7.2.3**). Further information regarding some of the key systems, practices and procedures relevant to implementation of this EP is provided below.

7.2.1 Woodside PetDW Management System

The Woodside PetDW Management System defines the boundaries within which all activities are conducted. It provides a structured framework to set common requirements, boundaries, expectations, governance and assurance for all activities. It also supports accountabilities and responsibilities as defined in the organisational structure. The overarching objective of the Woodside PetDW Management System is to aspire to zero harm to people, communities and the environment, and achieve leading industry practice.

This EP has been designed to meet the environmental requirements of the Woodside PetDW Management System framework and establishes the foundation for continual improvement through the application, monitoring and auditing of consistent requirements across all parts of the Petroleum Activities Program including;

- Identification of statutory obligations and commitments to ensure maintenance of licence to operate
- Implementation of petroleum risk management processes, including this EP
- Scheduled monitoring and auditing of control implementation
- Completion of reviews, and reporting outcomes of these reviews.

7.2.2 Risk Management

Risk management processes and practices are applied on an ongoing basis to design, production and maintenance activities for the Macedon activity to manage risks to personnel, assets and the environment.

Potential environmental consequences and impacts from the Macedon operations are risk assessed and controlled in accordance with the Woodside risk management processes described in **Section 2.6.3.1** of this EP (Environmental Risk Management Methodology).

The results of the Macedon ENVID are described in **Section 5** and in the Environmental Impacts and Risk Register. This register, in conjunction with the EP, provides a demonstration that environmental risks have been identified, and that appropriate controls are in place to manage those risks to a level that is acceptable and ALARP throughout the life of the field.

A number of other risk management tools and techniques are used for the Macedon activity to manage environmental and other risks on a routine basis during operational, maintenance and inspection tasks. Examples include:

- the processes outlined in **Section 2**
- risk management tools including Hazard Identification and Risk Assessments and Level 2 Risk Assessments, Operational Risk Assessments, the technical MoC system (**Section 7.2.3**), and Step back 5 x 5
- integrity review studies, HAZIDs and Hazard Operability studies.

These tools, risk and integrity management practices are described further in the Macedon Facility Safety Case and the WOMP.

In addition, other risk sub-processes and practices are also applied within Woodside on an ongoing basis to manage different types of risk. A summary of those relevant to the Petroleum Activities Program is provided below. Woodside's risk management processes (refer to **Section 2.6.3.1**), along with the supporting risk sub-processes and practices discussed in this section, ensure the environmental impacts and risks of the activity continue to be identified and reduced to a level that is ALARP.

7.2.2.1 Management of Risks – Contracting and Procurement

Suppliers and contractors play a significant role in meeting the resource needs of Woodside's operations, including the facility operations. Effective management of environmental risks in contracts is achieved by setting clear expectations and managing environmental risks throughout the duration of the contract.

7.2.2.2 Management of Risks – Well Integrity

Wells are managed throughout their lifecycle in line with the Well Lifecycle Management Procedure. This procedure provides the basis for ensuring well integrity in accordance with the PSM Procedure.

In addition, wells are required to have a regulator accepted WOMP to demonstrate that well integrity risks are managed to ALARP levels.

Management of operating wells can be formally transferred from Operations to the Global Wells and Seismic (GWS) team for activities such as well intervention and workover. Where activities are undertaken by GWS, the risks are managed under the GWS Risk Management Procedure, which specifically addresses the risk of loss of containment from a well or well related equipment. This procedure supplements the Woodside Risk Management Procedure.

7.2.2.3 Management of Risks – Marine Services

Woodside's Marine Services Function provides a platform for the conduct of safe and efficient Marine Operations across Woodside through the Marine Services Management. A set of procedures that support vessel assurance and management (including HSE and quality management) are in place to ensure marine operations are conducted in a safe and efficient manner, and in accordance with regulatory requirements.

More details on vessel assurance and the communication of environment requirements to vessels are provided in **Section 7.8.2**.

7.2.3 Change Management

Change management is used where there is no existing approved business baseline, such as a process, procedure or accepted practice, or where conformance with an approved baseline is not possible or intended; for example, due to equipment fault or failure or a recently discovered issue which will take time to rectify. Change management is also used when the baseline is changed (e.g. the process is modified). It applies to management of temporary, permanent, planned or unplanned change encompassing one or more of the following:

- plant (equipment, plant, technology, facilities, operations or materials)
- projects (budget, schedule)
- people (organisation structure, performance, roles)
- process (WMS content, processes, procedures, standards, legislation, information).

7.2.3.1 EP Management of Change and Revision

Woodside's Environmental Approval Requirements Australia Commonwealth Guideline provides guidance on the Environment Regulations that may trigger a revision and resubmission of the EP to NOPSEMA. The document also provides guidance on what may constitute as new source-based or receptor-based impacts and risks, or a significant increase in an existing source of environmental risk (to provide context in determining if EP resubmission is required under Regulations 19 and 39 of the Environment Regulations).

Minor EP changes, where a review of the activity and the environmental risks and impacts of the activity shows the changes do not trigger regulatory requirements to resubmit the EP, will be considered a 'minor revision'.

Changes with potential to influence minor or technical changes to the EP text are tracked in MoC records, project records, or the EP Updates Register and incorporated during internal updates of the EP or the five-yearly revision.

In accordance with the requirements of Regulation 41 of the Environment Regulations, Woodside will also submit to NOPSEMA a proposed revision to this EP at least 14-days before the end of each period of five years, commencing on the day on which the original and subsequent revisions of the EP are accepted under Regulation 35 of the Environment Regulations.

7.3 Woodside Decommissioning Framework

Decommissioning is a planned activity for the offshore oil and gas industry. Current best practice is for decommissioning to include:

- designing for decommissioning during the development phase of projects / facilities;
- maintaining and removing property, equipment and infrastructure, such as a facility or a pipeline, and plugging wells associated with a petroleum activity;
- assessing decommissioning options and opportunities during the operational life of the facility leading up to cessation of production;
- selecting, developing and planning the selected decommissioning option;
- executing decommissioning plans; and
- restoring the marine environment.

This assists with compliance with Section 572(3) of the OPGGS Act, which requires titleholders to remove property when it is neither used, nor to be used, in connection with the operations. As required under the OPGGS Act the base case for decommissioning is removal though the Act does provide a provision under Section 270(3) for other arrangements that are satisfactory to NOPSEMA. Titleholders may deviate via an accepted EP where it can be demonstrated that the risks and impacts are ALARP and acceptable. If a permanent deviation is being sought, NOPSEMA policy is that the proposed alternative presented in an EP must comply with all other Acts and legislation and deliver equal or better environmental outcomes compared to complete removal (DISER, 2020; NOPSEMA, 2020).

7.3.1 Decommissioning in Operations

Asset specific decommissioning plans are generally developed prior to cessation of production. Planning includes redundant infrastructure as well as structures coming to the end of production and the identification of decommissioning critical systems to enable removal. Appropriate maintenance plans are developed and implemented to ensure decommissioning critical systems meet the requirements to facilitate removal.

7.3.2 Facility Decommissioning Planning

Decommissioning planning generally commences 2-10 years prior to Cessation of Production (CoP) (Figure 7-1). The timeframe selected for decommissioning planning depends on the complexity of the facility and infrastructure requiring decommissioning.

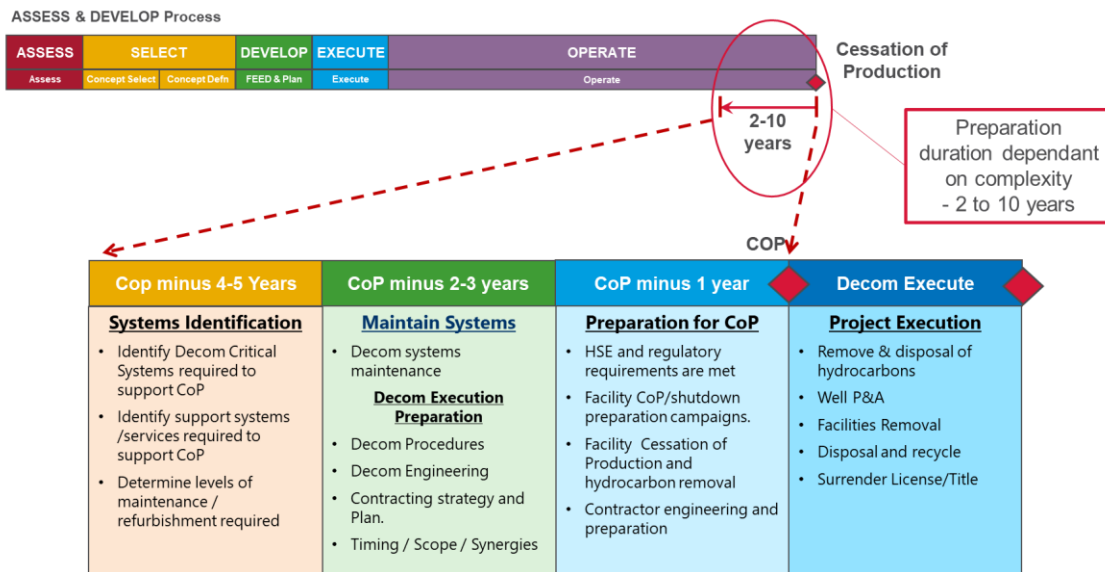


Figure 7-1: Woodside’s process for decommissioning planning

7.3.3 Macedon Decommissioning Infrastructure Status

Macedon production is currently estimated to continue until approximately 2033. This estimate does not account for extensions of life through future development or repurposing of the infrastructure.

An inventory and status of Macedon subsea infrastructure is detailed in **Section 3**.

7.3.3.1 Macedon Field Subsea Production Decommissioning Planning

Decommissioning planning is estimated to commence between 2023-2028, which will be 5-10 years prior to Macedon’s predicted EOFL.

7.3.3.2 Macedon Decommissioning Strategy

The base plan for decommissioning is outlined in the Asset-specific Closure Plan (currently under development). The target of the Asset Closure Plan (ACP) is to support the operation to maximise production opportunities while ensuring that planning for decommissioning is timely. Decommissioning/P&A execute activities could start shortly after the Asset reaches the Cessation of Production (CoP) milestone. The ACP is updated regularly every three years, or more frequently if there are material changes to the Asset or Regulatory requirements.

The overall strategy for decommissioning of the Macedon offshore facilities is based on the assumptions outlined below:

- **Wells:** Subsea gas wells assumed plugged and abandoned as a single campaign.
- **Offshore Pipeline:** Current assumption is that the offshore pipeline is cleared of hydrocarbons, filled with seawater and abandoned in place, subject to regulatory approvals.
- **Subsea Equipment:** Polymer-containing flexible flowlines and umbilicals removed and recycled. Trees removed and disposed of in a suitable manner.

Removal of the wellheads and the balance of in-field structures on the seabed, including coated steel flowlines, will be studied further to determine if alternative options of decommissioning them *in situ* would be an ALARP outcome.

This decommissioning strategy will be matured over time through various studies and data gathering to support the final proposed Macedon Decommissioning Plan.

The main activities related to decommissioning planning for the Macedon Field Production System are outlined in **Figure 7-2** below.

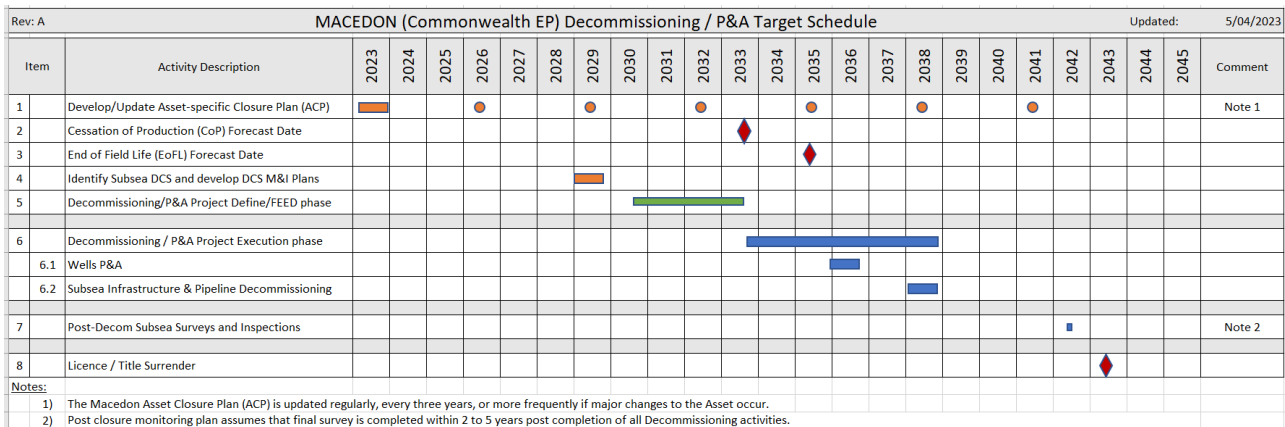


Figure 7-2: Macedon Decommissioning / P&A Target Schedule

7.3.3.3 Exploration and Appraisal Wells with Wellheads Decommissioning Planning

There are two non-producing wellheads in WA-42-L that are managed under WOMPs:

- Macedon-4, a plugged and suspended appraisal well, and
- West Muiron-4, a plugged and suspended exploration well.

In line with the WOMP commitment relating to Exploration wells Temporarily Abandoned (ETA wells), Woodside is continuing to undertake detailed subsurface/technical assessments of these ETA wells. This is to ensure that the wells are abandoned to the relevant regulatory requirements, including permanent downhole barriers. WOMPs to enable final NOPSEMA assessment and subsequent abandonment applications are being continually progressed.

Decommissioning of the ETA wellheads cannot progress until the wells have been accepted as permanently abandoned. However, current planning for wellhead decommissioning is premised upon applying the regulatory base case of removal, with consideration of the principles of ALARP and acceptability. Once wells have been accepted as permanently abandoned and the decommissioning activity is defined, an EP will be submitted for the wellhead decommissioning activity. These wells with wellheads are continuing to be maintained until decommissioned.

7.4 Organisation Structure

The following Woodside organisational structure provides leadership and direction for Macedon operations and environmental performance:

- the Executive Vice President (EVP) Australian Operations reports to the Chief Executive Officer
- the FPSOs and Macedon Vice President (VP) report to the EVP
- the Asset Manager reports to the VP FPSOs and Macedon
- the Macedon Person in Charge (PIC) reports to the Asset Manager
- the Reliability & Integrity Manager reports to the VP FPSOs and Macedon
- the Principal Subsea Engineer reports to the Reliability & Integrity Manager – is responsible for managing integrity and maintaining operability of subsea systems
- the functional support teams report to the corresponding Business Unit VP
- Production facilities are supported by a team of environmental professionals who report to the Environment Manager - Australian Operations
- facilities are supported by other Woodside functional teams including:
 - **HSE** – provides specific guidance and access to specialist HSE resources including assistance for governance and training, as well as guidance on Woodside HSE standards
 - **Global Wells and Seismic** – ensures the safe planning and execution of drilling (note drilling is excluded from the scope of this EP), completion and work over operations
 - **Projects** – responsible for the engineering, construction and execution of small projects on operational facilities to ensure ongoing integrity and safe operation
 - **Marine Group** – responsible for chartering vessels to support Woodside’s offshore production facilities including vessels to aid emergency response
 - **Aviation Group** – provides personnel transport, material transport, emergency evacuation and search and rescue capabilities.

7.5 Roles and Responsibilities

As required by Regulation 22(4), this section of the implementation strategy establishes a clear chain of command that sets out the roles and responsibilities of personnel in relation to the implementation, management and review of the EP, ranging from senior management to operational personnel.

Key roles and responsibilities for Woodside and Contractor personnel in relation to the implementation, management and review of this EP are described below in **Table 7-1**. Roles and responsibilities for hydrocarbon spill preparation and response are outlined in **Table 7-1** and the Woodside [Oil Pollution Emergency Arrangements \(Australia\)](#). Roles and responsibilities for facility emergency response are outlined in the Macedon Facility Safety Case and are consistent with the Macedon Emergency Response Plan (ERP).

It is the responsibility of all Woodside employees and contractors to apply the Woodside Environment and Biodiversity Policy (**Appendix A**) in their areas of responsibility.

Table 7-1: Roles and responsibilities

Title (role)	Environmental Responsibilities
All Personnel	
All facility-based personnel and onshore support personnel	<ul style="list-style-type: none"> • understand the Woodside standards and procedures that apply to their area of work • understand the environmental risks and control measures that apply to their area of work • carry out assigned activities in accordance with approved procedures and the EP • follow instructions from relevant supervisor with respect to environmental protection • cease operations that are deemed to present an unacceptable risk to the environment • participate in environmental assurance activities and inspections as required • prompt reporting of environmental hazards/incidents to their supervisor and assist in event investigation • attend HSE meetings, training and drills when required.
Office-based Personnel	
Macedon Asset Manager	<p><u>Systems, Practices and Procedures</u></p> <ul style="list-style-type: none"> • accountable for ensuring all necessary regulatory approvals are in place to operate • approves (decides on) the content to be contained in the EP • accountable for managing the asset throughout its operations in accordance with legislative/regulatory requirements (including this EP) and WMS requirements. • responsible for continuous improvement of operations of the facility, including environmental performance <p><u>Monitoring, Auditing, Non-conformance and Emergency Response</u></p> <ul style="list-style-type: none"> • decides on technical decisions where required based on assessed current level of risk • accountable for incident notification, reporting and investigation in line with regulatory requirements, the WMS and EP requirements
Macedon Person In Charge	<p><u>Systems, Practices and Procedures</u></p> <ul style="list-style-type: none"> • responsible for the operation of the facility in accordance with legislative/regulatory requirements (including this EP) and the WMS • decides on technical decisions where required based on assessed current level of risk • accountable for aspects of integrity management <p><u>Monitoring, Auditing, Non-conformance and Emergency Response</u></p> <ul style="list-style-type: none"> • accountable for conformance to production Operations processes
Environment Manager	<p><u>Systems, Practices and Procedures</u></p> <ul style="list-style-type: none"> • facilitate operations environmental approval documentation and timely submission in accordance with regulatory requirements

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Title (role)	Environmental Responsibilities
	<ul style="list-style-type: none"> develop and maintain appropriate Production environmental processes and procedures <p><u>Monitoring, Auditing, Non-conformance, and Emergency Response</u></p> <ul style="list-style-type: none"> Monitor and communicate to internal stakeholders all relevant changes to legislation, policies, regulator organisation that may impact the EP or business facilitate review of the EP, including five-yearly revision and in relation to any technical decisions or proposed changes to operations
Production Environment Adviser	<p><u>Systems, Practices and Procedures</u></p> <ul style="list-style-type: none"> manage change relevant to the EP in accordance with the Regulations and the EP <p><u>Resourcing, Training and Competencies</u></p> <ul style="list-style-type: none"> liaise with Woodside contractors and Subsea Support Bessel crew to communicate and ensure their understanding of IMMR related requirements under this EP <p><u>Monitoring, Auditing, Non-conformance and Emergency Response</u></p> <ul style="list-style-type: none"> ensure environmental monitoring, offshore inspections, and reporting is undertaken as per the requirements of this EP coordinate and monitor closeout of corrective actions ensure environmental inspections/audits are undertaken as per the requirements of the EP ensure environmental incident reporting meets regulatory requirements (as described within the EP) and WMS requirements
Principal Subsea Engineer	<p><u>Systems, Practices and Procedures</u></p> <ul style="list-style-type: none"> ensure IMMR process undertaken in line with EP commitments manage IMMR change requests for the activity and notify the Production Environment Adviser of any scope changes in a timely manner responsible for governance of IMMR related activities for Subsea Support Vessels. <p><u>Resourcing, Training and Competencies</u></p> <ul style="list-style-type: none"> provide sufficient resources to implement the EP requirements <p><u>Monitoring, Auditing, Non-conformance, and Emergency Response</u></p> <ul style="list-style-type: none"> monitor and close out corrective actions raised from IMMR environmental inspections/audits or incidents
Corporate Affairs Adviser	<p><u>Systems, Practices and Procedures</u></p> <ul style="list-style-type: none"> stakeholder identification and consultation reporting on consultation ongoing stakeholder liaison as required.
Woodside Marine Services Function	<ul style="list-style-type: none"> responsible for pre-charter assurance for all contracted vessels

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Title (role)	Environmental Responsibilities
	<ul style="list-style-type: none"> conduct of ongoing operational assurance of vessels contracted through Woodside Marine, to confirm vessels operate in compliance with relevant legislation, rules and Woodside Marine Charterers Instructions in order to be able to meet safety, navigation, operational and emergency response requirements.
Contractor Sponsors	<p><u>Systems, Practices and Procedures</u></p> <ul style="list-style-type: none"> ensure implementation of EP for the contractor's scope of work <p><u>Resourcing, Training and Competencies</u></p> <ul style="list-style-type: none"> ensure contractors have adequate environmental capability in order to execute their respective scopes of work review contractor environmental performance as required.
Vessel-based Personnel	
Vessel Master of Subsea Intervention Vessel	<p><u>Systems, Practices and Procedures</u></p> <ul style="list-style-type: none"> understand and manage HSE aspects of the vessel, including environmental requirements communicate with OIM as required regarding potential environmental risks applicable to vessel activities ensure vessel meets quarantine requirements <p><u>Monitoring, Auditing, Non-conformance and Emergency Response</u></p> <ul style="list-style-type: none"> notify AMSA and other authorities of any incidents as per maritime requirements provide, as requested by Woodside, copies of documents, records, reports and certifications (i.e. fuel use, ballast exchanges, waste logs, etc.) in a timely manner to assist in compliance reporting ensure the vessel's Emergency Response Team have sufficient training to implement the vessel's SOPEP ensure all emergency and SOPEP drills are conducted ensure that vessel procedures are followed in the event of an emergency or spill immediately notify the Woodside Representative of any environmental incidents.
Woodside Site Representative	<p><u>Systems, Practices and Procedures</u></p> <ul style="list-style-type: none"> ensure relevant management measures in this EP are implemented on the Subsea Intervention Vessel <p><u>Resourcing, Training and Competencies</u></p> <ul style="list-style-type: none"> ensure Subsea Support Vessel induction attendance is recorded. <p><u>Monitoring, Auditing, Non-conformance and Emergency Response</u></p> <ul style="list-style-type: none"> ensure periodic environmental inspections are completed ensure environmental incidents or breaches of EPOs, EPSs or MCs are reported in accordance with Woodside and regulatory requirements

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7.6 Unexpected Finds Procedure

In the event of the discovery of what appears to be Underwater Cultural Heritage (defined as ‘any trace of human existence that has a cultural, historical or archaeological character and is located under water’); the following Unexpected Finds Procedure will apply:

- All activities with the potential to impact the suspected Underwater Cultural Heritage must cease immediately. Retain all records of the potential Underwater Cultural Heritage, including any imagery, description and location.
- Person who discovers the heritage object must inform the Activity Supervisor.
- Activity Supervisor must notify Woodside’s Manager Global Heritage.
- Woodside will specify an appropriate buffer around the potential Underwater Cultural Heritage, taking into consideration the nature and scale of the potential Underwater Cultural Heritage and the activities to be managed.
- No seabed disturbance may occur within the buffer area around the potential Underwater Cultural Heritage until approved by Woodside’s Manager Global Heritage.
- Woodside’s Manager Global Heritage must notify a qualified underwater archaeologist and provide all available documentation of the potential Underwater Cultural Heritage.
- If the potential Underwater Cultural Heritage appears to be First Nations underwater cultural heritage, Woodside’s Manager Global Heritage must notify the appropriate Traditional Custodians to determine whether it is a heritage site and if so, how the site should be managed.
- If the potential Underwater Cultural Heritage appears to be a shipwreck or aircraft that has been wrecked for more than 75 years, or is otherwise reportable under Section 40 of the UCH Act, Woodside’s Principal Heritage Advisor must notify the Minister responsible for the UCH Act, the DCCEEW underwater archaeology section, the Australasian Underwater Cultural Heritage Database via DCCEEW, and the Western Australian Museum.
- If the suspected heritage object includes human remains, Woodside’s Principal Heritage Adviser must also notify:
 - The Australian Federal Police (phone: 131 444) of the location of the remains, that the remains are likely to be historic or Aboriginal in origin, and that it may be appropriate that Traditional Custodians and a maritime archaeologist are present during any handling of the remains; and
 - The Office of the Federal Environment Minister in accordance with Section 20 of the ATSIHP Act.
- Work must not recommence in the vicinity of the potential heritage object until Woodside’s Manager Global Heritage provides written approval. Woodside’s Manager Global Heritage must only provide written approval once agreed management measures are implemented consistent with approvals and legislation or where the potential Underwater Cultural Heritage is confirmed to not be Underwater Cultural Heritage.

7.7 Training and Competency

As required by Regulation 22 (5), this section of the implementation strategy includes measures that ensure all personnel associated with operating the Macedon activity are aware of their EP related responsibilities, and that all relevant personnel have appropriate competencies and training.

Training is undertaken to ensure employees and contractors whose work may impact on the environment have the necessary awareness, knowledge and competence appropriate for their role.

Different levels of training are undertaken in relation to managing environmental risks and impacts for the offshore subsea infrastructure and associated subsea support vessel based IMMR activities, as follows:

- operations competency framework training
- permit to work training
- production environmental leadership training and environment awareness training
- emergency and hydrocarbon spill response training
- inductions for subsea IMMR (vessel based) personnel
- Incident reporting
- Unexpected Finds Procedure and reporting requirements (**Section 7.6**).

Records for Woodside production personnel, in relation to the above listed training, are maintained in Woodside's learning management system. Contractor training records are also maintained.

Competence of operations personnel can be reviewed via online dashboards.

7.7.1 Emergency and Hydrocarbon Spill Response Training

All operations personnel involved in crisis and emergency management are required to commit to ongoing training, process improvement and participation in emergency and crisis response (both real and simulated), including emergency drills specific to potential incidents at the Macedon facility. Training includes task specific training and role-based training and 'on the job' experience (i.e. participation in crisis or emergency management exercises). Roles based training is further described in **Section 7.11**.

An overview of Woodside's hydrocarbon spill response training and competency requirements are provided in dashboards for key responder roles. The roles are consistent with Woodside's crisis and emergency management incident control structure.

Woodside Hydrocarbon Spill Preparedness Advisor(s) are responsible for maintaining hydrocarbon spill preparedness competency. This includes the identification and development of approved competency and non-competency-based courses, identification of relevant personnel required to undertake training and ensuring training records are maintained. Minimum Woodside capabilities will continue to be identified and documented.

7.7.2 Subsea IMMR Activity Environmental Awareness

At the beginning of, and during, a new subsea IMMR activity, the subsea support vessel crew including contractor crew, Woodside representatives and other relevant personnel are required to undertake a vessel induction before commencing work. This induction covers HSE requirements for the vessel and IMMR activities, and as required environmental information specific to the activity location. The induction may cover the following environmental information:

- adherence to standards and procedures, and the use of Job Hazard Analysis and permit to work hazard identification and management process
- spill management including prevention, response and clean-up, location of spill kits and reporting requirements
- waste management requirements and location of bins
- reporting of marine fauna, location of forms and charts
- chemical management requirements.

All personnel who undertake the project induction are required to sign an attendance sheet which is retained.

Regular HSE meetings are held on subsea support vessels with crew. During these meetings, any environmental incidents are reviewed, and environmental awareness material presented.

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

Regulation 22(6) states that the implementation strategy is to provide for the monitoring, audit, management of non-conformance and review of operator's environmental performance and the implementation strategy itself.

This Section of the EP outlines the measures undertaken by Woodside to regularly monitor the management of environmental risks and impacts of the Macedon facility against the EPOs, EPSs and MCs, with a view to continuous improvement of environmental performance. The effectiveness of the implementation strategy is also reviewed periodically as part of the monitoring and assurance process.

7.8.1 Monitoring

Woodside and its Contractors undertake a program of periodic monitoring during the Petroleum Activities Program. This information is collected using the tools and systems outlined below based on the EPOs, controls, EPSs and MCs in this EP. Environmental aspects are integrated into Woodside-wide functional and asset review and assurance processes, which deliver effective governance. This integration of environmental controls into appropriate parent systems and processes includes PSM (**Section 7.2.2**) contractor management (**Section 7.2.2**) and marine assurance (**Section 7.8.2.3**), and provides multi-faceted assurance of routine implementation.

The tools and systems collect, as a minimum, the data (evidence) referred to in the MCs in Sections **6.6** and **6.7**. The collection of this data will form part of the record of compliance maintained by Woodside and form the basis for demonstrating that the EPOs and EPSs are met. Compliance is summarised in a series of routine reporting documents (refer to **Section 7.10.3.2**).

The following tools and systems to monitor environmental performance, (including collection of evidence of compliance with controls), where relevant, include:

- environmental emissions/discharge reporting systems that record volumes of planned discharges to ocean and atmosphere, e.g. via the Production Allocation System and process historian database – a summary of emissions and discharges monitoring that is undertaken during the Petroleum Activities Program is provided within **Table 7-2**
- monitoring of progress against the Asset scorecard for KPIs (**Section 7.8.4.2**)
- routine internal reporting (as described in **Section 7.10.2**) and routine external annual compliance reporting (as described in **Section 7.10.3**)
- internal auditing and assurance program (as described in **Section 7.8.2**).

Collectively, these systems/tools involve collection of evidence of compliance with controls. Throughout the Petroleum Activities Program, Woodside continues to identify new source-based risks and impacts through the Monitoring and Auditing systems and tools described above and within **Section 7.8**

Other examples of assurance tasks implemented through the EP include (as an example);

- start of shift vessel operator walk arounds
- permit to work hazard, risk management check list, area sign-on, and permit audits
- annual critical control performance reviews

- ongoing maintenance performance assurance (e.g. conformance dashboard)
- management system performance audit reviews (e.g. MSPSs) (**Section 7.8.2**)
- data gathering and governance dashboard presentations (e.g. Woodside Integrated Risk and Compliance System).

7.8.1.1 Management of Knowledge

Review of knowledge relevant to the existing environment is undertaken to identify changes relating to the understanding of the environment or legislation that supports the risk and impact assessments for EPs (in-force and in-preparation). Relevant knowledge is defined as:

- Environmental science supporting the description of the existing environment
- Socio-cultural environment and stakeholder information
- Environmental legislation.

Under the Oil Spill Scientific Monitoring Program preparedness, an annual review and update to the environmental baseline studies database is completed and documented. Periodic location-focused environmental studies and baseline data gap analyses are completed and documented. Any subsequent studies scoped and executed as a result of such gap analysis are managed by the Environment Science Team and tracked via the Corporate Environment Baseline Database.

7.8.1.2 Management of Newly Identified Impacts and Risks

New sources of receptor-based impacts and risks identified through monitoring and auditing systems and tools and the Woodside Environment Knowledge Management System are assessed using the Change Management Process (**Section 7.2.3**).

Table 7-2: Summary of emissions and discharges monitoring for the Petroleum Activities Program

Category	Parameter to be Monitored/Reported	Monitoring Frequency	Monitoring Equipment/Methodology	EP Reference
Planned Emissions				
Atmospheric Emissions from vessel MDO combustion	Greenhouse, energy and criteria pollutants	Per IMMR campaign	MDO usage by vessels	Section 6.6.6
Planned Discharges				
Discharge of hydrocarbons and chemicals during subsea IMMR activities	Volumes of hydrocarbons and chemicals released subsea	As required, during IMMR activities (activity specific)	Estimates based on known volumes pumped and ROV observation	Section 6.6.4
Discharge of cooling water	Total Residual Chlorine	Periodically	Total Residual Chlorine testing	Section 6.6.5
Waste recycling and disposal	Quantities of solid and liquid wastes disposed of onshore	Ongoing	Facility waste manifest	Section 6.7.1
Unplanned Emissions and Discharges				
Unplanned emissions and discharges	Nature of release	As required	HSE Event Reporting System	Section 6.7

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7.8.2 Auditing

7.8.2.1 Operations Assurance

To provide confidence, based on evidence commensurate with risk, that business objectives are met, business activities are performed and risks are managed, assurance activities are performed.

Environmental assurance activities are conducted on a regular basis to help:

- verify environmental risks and potential impacts are being managed in accordance with the EPOs and EPSs detailed in this EP
- monitor, review and evaluate the effectiveness of the performance outcomes and standards detailed in this EP
- verify effectiveness of the EP implementation strategy
- identify potential non-conformances.

The outputs of the assurance process are corrective actions that feed the improvement process. Therefore, assurance is a key driver of continuous improvement.

7.8.2.2 Annual Offshore Inspection/Desktop Review

An inspection/review of the offshore activity is undertaken every calendar year by the Production Environment Team, via desktop review. Selected risk areas/activities are inspected to review environmental performance against the EPOs and EPSs and verify that control measures are effective in reducing the environmental risks and impacts of the activity to an ALARP and acceptable level.

The inspection/review also includes review of conformance with selected aspects of the EP implementation strategy. All risk sources/activities applicable to the offshore facility will be reviewed over a three-year rolling period. Records of findings and records of close-out of any corrective or improvement actions are maintained (close-out is tracked in Woodside's action tracking system).

7.8.2.3 Marine Assurance

Woodside's marine assurance is managed by the Marine Assurance Team of the Logistics Function Marine Services Group in accordance with Woodside's Marine Offshore Vessel Assurance Procedure. The Woodside process is based on industry standards and consideration of guidelines and recommendations from recognised industry organisations such as Oil Companies International Marine Forum and International Maritime Contractors Association.

Woodside's Marine Offshore Assurance process is mandatory for all vessels (other than Tankers and Floating Production Storage and Offloading vessels) that are chartered directly by or on behalf of Woodside, including for short term hires (i.e. <3 months in duration). It defines applicable marine offshore assurance activities, ensuring all vessel operators operate seaworthy vessels that meet the requirements for a defined scope of work and are managed with a robust Safety Management System.

The process is multi-faceted and encompasses the following marine assurance activities:

- Safety Management System Assessment
- Dynamic Positioning (DP) System Verification
- Vessel Inspections
- Project support for tender review, evaluation and pre/post contract award.

Vessel inspections are used to verify actual levels of compliance with the company's Safety Management System, the overall condition of the vessel and the status of the planned maintenance system onboard. Woodside Marine Assurance Specialist will conduct a risk assessment on the vessel to determine the level of assurance applied and the type of vessel inspection required.

Methods of vessel inspection may include, and are not limited to:

- Woodside Marine Vessel Inspection
- OCIMF OVID Inspection
- IMCA CMID Inspection
- Marine Warranty Survey.

Upon completion of the marine assurance process, to confirm that identified concerns are addressed appropriately and conditions imposed are managed, the Woodside Marine Assurance Team will issue the vessel a statement of approval. Should a vessel not meet the requirements of the Woodside Marine Offshore Vessel Assurance Process and be rejected, there does exist an opportunity to further scrutinise the proposed vessel.

OVID inspections are objective in nature and reflect what was observed by the Inspector while conducting the inspection. The inspection provides observations as opposed to non-conformities.

Where an OVID vessel inspection and/or OVMSA Verification Review is not available and all reasonable efforts based on time and resource availability to complete a vessel OVID inspection and/or OVMSA Verification Review are performed (i.e. short term vessel hire), the Marine Assurance Specialist Offshore may approve the use of an alternate means of inspection, known as a risk assessment.

Risk Assessment

Woodside conducts a risk assessment of vessels where either an OVMSA Verification Review and/or an OVID vessel inspection cannot be completed. This is not a regular occurrence and is typically used when the requirements of the assurance process are unable to be met or the processes detailed are not applicable to a proposed vessel(s). The Marine Vessel Risk Assessment will be conducted by the Marine Assurance Specialist Superintendent, or the nominated deputy, where the vessel meets the short term hire prerequisites.

The risk assessment is a semi-quantitative method of determining what further assurance process activity, if any, is required to assure a vessel for a particular task or role. The process compares the level of management control a vessel is subject to against the risk factors associated with the activity or role.

Several factors are assessed as part of a vessel risk assessment, including:

- Management control factors:
 - Company audit score (i.e. management system)
 - vessel HSE incidents
 - vessel Port State Control deficiencies
 - instances of Port State Control vessel detainment
 - years since previous satisfactory vessel inspection
 - age of vessel
 - contractors' prior experience operating for Woodside.

- Activity risk factors:
 - people health and safety risks (a function of the nature of the work and the area of operation)
 - environmental risks (a function of environmental sensitivity, activity type and magnitude of potential environment damage (e.g. largest credible oil spill scenario))
 - value risk (likely time and cost consequence to Woodside if the vessel becomes unusable)
 - reputation risk
 - exposure (i.e. exposure to risk based on duration of project)
 - industrial relations risk.

The acceptability of the vessel or requirement for further vessel inspections or audits is based on the ratio of vessel score to activity risk. If the vessel management control is not deemed to appropriately manage activity risk, a satisfactory company audit and/or vessel inspection may be required before awarding work.

The risk assessment is valid for the period a vessel is on hire and for the defined scope of work.

7.8.3 Management of Non-conformance (Internal)

Woodside employees and Contractors are required to internally report all environmental incidents and hazards, including potential non-conformances with EPOs and EPSs in this EP.

The Health, Safety and Environment Event Reporting and Investigation Procedure defines how incidents and hazards are internally reported. Key requirements are set out using an Event Report Form, which includes details of the event, immediate action taken to control the situation, and corrective actions to prevent reoccurrence. An internal online database is used for the recording and reporting of these events. Corrective actions are monitored using the online database and closed out in a timely manner.

The classification, reporting, investigation and actioning of environmental incidents and hazards is undertaken in accordance with the Health, Safety and Environment Event Reporting and Investigation Procedure supported by the HSE Event Reporting Guideline. Event bulletins may be used for communication of learnings from significant events.

Non-conformances with EPOs and EPSs are also internally reported and investigated in accordance with Regulatory Compliance Management Procedure, supported by the Regulatory Compliance Management Guideline.

External regulatory reporting requirements for this activity are outlined in **Section 7.10** of this EP.

7.8.4 Review

7.8.4.1 Environmental Risk Review

Woodside risk management processes include risk review, are described in **Sections 0** and **7.2.2** and are applied on a day-to-day basis. The Facility Environmental Impacts and Risk Register must be reviewed and updated every five years.

Monitoring (**Section 7.8.1**), assurance (**Section 7.8.2**) and review (**Section 7.8.4**) are also used to identify potential new information that may arise during the activity and ensure that performance outcomes and standards are being met and EP environmental control measures are effective. While conducting these activities, qualified, experienced environment advisors, in consultation with

experienced Operational and/or Engineering personnel use their professional judgement, to identify potential new control measures that have potential to improve environmental outcomes or reduce risk. As various monitoring/assurance/review processes are used there is not an overarching procedure/checklist that is suitable to contain a prompt for consideration of new environmental controls.

In addition, Woodside's risk management practices and processes are systematically applied on an ongoing basis to activities provided for within the EP (as summarised within **Section 7.2.2**). Via these processes and practices, new risk controls for individual planned and unplanned events may be selected and implemented (proportional to risk levels). When such risk controls are identified by environmental advisors as being relevant to the overarching EP sources of risk, these may also be added as new EP control measures. Any new or improved EP environmental controls or specific measures (that have the potential to improve environmental outcomes or reduce risk), can be tracked within the production EP updates register for incorporation into the EP at its next revision. The EP may be internally revised to reflect these changes without resubmission.

Where review processes identify new or improved controls relevant to environmental risks identified in this EP (that have the potential to improve environmental outcomes or reduce risk), the EP may be internally revised to reflect these changes without resubmission.

7.8.4.2 Key Performance Indicator Review

Key performance indicators (KPIs) are developed annually and agreed with senior management (i.e. Macedon Asset Manager). Progress against the environment KPIs is tracked within Asset Scorecards.

Reviews of hydrocarbon spill arrangements and testing are carried out in accordance with Appendix H.

7.8.4.3 Learning and Knowledge Sharing

Learning and knowledge sharing occurs via a number of different methods, including for example:

- operations learnings meetings
- event investigations
- event bulletins
- engineering and technical authorities discipline communications and sharing.

7.9 Record Keeping

Compliance records (outlined in MCs in **Section 5**) are maintained. Record keeping is in accordance with Regulation 22(7) that addresses maintaining records of emissions and discharges such that the records can be used to assess whether EPOs and EPSs are being met (refer to **Section 7.8.1** and **Table 7-2** for a summary of records that are retained).

7.10 Reporting

7.10.1 Overview

In order to meet the EPOs and EPSs outlined in this EP, Woodside undertakes reporting at a number of levels. These reporting arrangements are outlined below.

7.10.2 Routine Reporting (Internal)

7.10.2.1 Daily Reports

The following daily reports, containing environmental performance information are issued:

- Daily Production Report – The report includes facility performance information on production and a log of any HSE events.
- Subsea support vessel Daily Progress Report(s) – During subsea IMMR activities, daily reports are issued by the Woodside Site Representative. The reports provide performance information on HSE events, diesel use, together with equipment information, current and planned work activities.

7.10.2.2 Performance Reporting

A number of routine performance reports are developed in support of the facility operational activities. These reports cover HSE, production and process safety performance. Information included in these reports, relevant to the EP, includes:

- summary of environmental incidents
- current and planned work activities, significant events (e.g. shutdowns, failures)
- integrity status and process safety metrics
- status of subsea IMMR activities.

7.10.3 Routine Reporting (External)

7.10.3.1 Ongoing Consultation

In accordance with Regulation 22(9) of the Environment Regulations, the implementation strategy must provide for appropriate consultation with relevant authorities of the Commonwealth, a State or Territory and other relevant interested persons or organisations.

Woodside's approach to ongoing consultation is that feedback and comments received from relevant persons and additional persons continue to be assessed and responded to, as required, through the life of an EP, including during EP assessment and throughout the duration of the accepted EP, in accordance with the intended outcome of consultation (as set out in **Section 5**).

Woodside proposes to undertake the engagements with directly impacted relevant persons and additional persons listed in Table 7-3 Relevant new information identified during ongoing consultation will be assessed using the EP Management of Knowledge (refer to **Section 7.8.1.1**) and Management of Change Process (refer to **Section 7.2.3**).

Woodside hosts community forums at which members are provided updates on Woodside activities on a regular basis (for example community reference group meetings). Representatives who present at those meetings are from community and industry and include Woodside, State Government (for instance relevant Regional Development Commissions), Local Government, Indigenous Groups, industry representative bodies, Community and industry organisations.

Woodside has developed a Program of Ongoing Engagement with Traditional Custodians (Appendix G), directly informed by feedback from Traditional Custodians. It provides a mechanism for ongoing dialogue so that Traditional Custodians can, on an ongoing basis, provide Woodside with feedback relating to the possible consequences of an activity to be carried out under an Environment Plan on their functions, interests and activities as they relate to cultural values. The program enables

Woodside to manage potential impacts and risks to cultural values which may be identified at any time during Woodside’s activities via ongoing dialogue with Traditional Custodians.

Relevant persons, additional persons and those who are merely interested in the activities, can otherwise remain up to date on this activity through subscribing to the Woodside website, or by reading the publicly available version of the EP on NOPSEMA’s website, where available.

Should consultation feedback be received following EP acceptance that identifies a measure or control that requires implementation or update to meet the intended outcome of consultation (see **Section 5**, Woodside will apply its EP Management of Knowledge process (refer to **Section 7.8.1.1**) and Management of Change process (refer to **Section 7.2.3**), as appropriate.

The ongoing consultation engagements that Woodside intends to progress for this EP are set out in the table below.

Table 7-3: Ongoing consultation engagements

Report/ Information	Recipient	Purpose	Frequency	Content
Program of Ongoing Engagement with Traditional Custodians (Appendix G)	Relevant cultural authorities	Identification, assessment and consideration of cultural values relevant to the Operational Area or EMBA.	Ongoing.	Assessment of cultural values Any new information on cultural values will be assessed using the EP Management of Knowledge (ref to Section 7.8.1.1) and Management of Change Process (refer to Section 7.2.3).
Emails / Meetings	Relevant cultural authorities	Identification, assessment and consideration of cultural values relevant to the Operational Area and EMBA.	Ongoing.	Assessment of cultural values Any new information on cultural values will be assessed using the EP Management of Knowledge (ref to Section 7.8.1.1) and Management of Change Process (refer to Section 7.2.3).
Notification (email) Updates (email)	AHO	As requested by AMSA during consultation.	At least 24-48 hours before operations commence for activities occurring outside the petroleum Safety Zone >3 weeks.	PS 1.3 (Section 6.6.1) Date of activity start and duration.
Notification (email)	AMSA JRCC	As requested by AMSA during consultation	At least 24-48 hours before operations commence for activities occurring outside the petroleum Safety Zone >3 weeks.	PS 1.4 (Section 6.6.1) Date of activity start and duration.

Update (email)				
Notification (email)	All relevant persons to the proposed activity	Notification of significant change	As appropriate	Notification of significant change
Emails/ Meetings	Persons or organisations who provide feedback to Woodside post EP submission.	Identification, assessment and consideration of feedback, claims and/ or objections	As appropriate	Assessment of claims and/ or objections. Any new information on cultural values will be assessed using the EP Management of Knowledge (ref to Section 7.8.1.1) and Management of Change Process (refer to Section 7.2.3).
Notification (email)	Australasian Underwater Cultural Heritage Database Any other stakeholders as required in the Unexpected Finds Procedure (Section 7.6).	Report any unexpected finds of potential Underwater Cultural Heritage.	If triggered by Unexpected Finds Procedure (Section 7.6).	Refer to Unexpected Finds Procedure (Section 7.6 and C 4.2).

7.10.3.2 Environmental Performance Review and Reporting

In accordance with applicable environmental legislation for the activity, Woodside is required to report information on environmental performance to the appropriate regulator.

Routine regulatory reporting requirements are summarised in Table 7-4. The requirements include that Woodside will develop and submit an annual Environmental Performance Report to NOPSEMA, with the first report submitted within 12 months of the commencement of activities covered by this EP (as per the requirements of Regulation 22(7) (i.e. by 30 April the following year).

Table 7-4: Routine external reporting requirements

Report	Recipient	Frequency	Content
Monthly Recordable Incident Report	NOPSEMA	Monthly, by 15 of each month	As required by Regulation 50, details of recordable incidents that have occurred under the EP for the previous month. Refer to Section 7.10.5 for more detail.
Annual EP Performance Report	NOPSEMA	Annual, by 30 June of the year following reporting period	As required by Regulation 22 (2) and 26C the report will report compliance with the EPOs and EPSs outlined in Section 5 of this EP. The reporting period is based in the calendar year 1 January to 31 December.
NPI Report	DCCEEW	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 (NGERS)	Clean Energy Regulator	Annual, by 31 October each year	Summary of energy use and greenhouse gas emissions including those from the facility. Reporting period is 1 July to 30 June each year.

Report	Recipient	Frequency	Content
Cetacean and Whale Shark Sightings Report	DCCEEW (via Australian Antarctic Division)	Annual, by 31 January each year	Summary of cetacean and whale shark sightings for the previous reporting period

7.10.3.3 End of the Petroleum Activities Program Notification

In accordance with Regulation 54, Woodside will notify NOPSEMA within ten days of the completion of the Petroleum Activities Program.

7.10.3.4 End of the Environment Plan

The EP will end when Woodside notifies NOPSEMA that the PAP has ended, all of the obligations identified in this EP have been completed, and NOPSEMA has accepted the notification, in accordance with Regulation 46 of the Environment Regulations.

7.10.4 Incident Reporting (Internal)

All Woodside employees and contractors are required to report environmental incidents and non-conformances with this EP. Incidents are reported using an Event Report Form which includes details of the event, immediate action taken to control the situation, and corrective actions to prevent reoccurrence (for further details refer to **Section 7.8.3**).

7.10.5 Incident Reporting (External) – Reportable and Recordable

Woodside’s regulatory reporting requirements are outlined within the Regulator Event Reporting Procedure supported by the Regulator Event Reporting Guideline.

7.10.5.1 Reportable Incidents

A reportable incident is defined under Regulation 5 of the Environment Regulations as ‘an incident relating to the activity that has caused, or has the potential to cause, moderate to significant environmental damage’.

A reportable incident for the Petroleum Activities Program is:

- An incident that has caused environmental damage with a Severity Level of 3 (Moderate) or above (as defined under Woodside PetDW Risk Table; refer to **Section 2.6**)
- An incident that has the potential to cause environmental damage with a Severity Level of 3 (Moderate) or above (as defined under Woodside’s PetDW Risk Table – refer to **Section 2.6**).

The environmental impact and risk assessment (**Section 5**) for the Petroleum Activities Program identifies those risks with a potential Severity Level of 3 for environment. The incidents that have the potential to cause this level of impact include hydrocarbon loss of containment events to ocean resulting from either: subsea infrastructure or a vessel collision; or introduction of Invasive Marine Species.

Any such incidents represent potential events that would be reportable incidents. Reporting of incidents is undertaken with consideration of NOPSEMA (2014) guidance stating, ‘if in doubt, notify NOPSEMA’, and assessed on a case-by-case basis to determine if they trigger a reportable incident as defined in this EP and by the regulations.

Notification

NOPSEMA will be notified of all reportable incidents, according to the requirements of Regulations 47, 48 and 49 of the Environment Regulations. Woodside will:

- orally notify NOPSEMA of all reportable incidents to the regulator as soon as practicable, but within two hours of the incident or of its detection by Woodside
- provide a written record of the reported incident to NOPSEMA, the National Offshore Petroleum Titles Administrator (NOPTA) and the Department of the responsible State Minister (Department of Energy, Mines, Industry Regulation and Safety [DEMIRS]) as soon as practicable after the oral notification of the incident
- complete a written report for all reportable incidents using a format consistent with the NOPSEMA Form FM0929 – Reportable Environment Incident which must be submitted to NOPSEMA as soon as practicable, but within three days of the incident or of its detection by Woodside
- provide a copy of the written report to NOPTA and DEMIRS, within seven days of the written report being provided to NOPSEMA.

7.10.5.2 Recordable Incidents

A recordable incident is defined under Regulation 5 of the Environment Regulations as a ‘breach of an EPO or EPS, in the EP that applies to the activity, that is not a reportable incident’.

Any breach of the EPOs or EPSs (as presented within **Section 6**) will be raised as a recordable incident and managed as per the notification and reporting requirements outlined below and internal requirements outlined in **Section 7.10**.

Notification

NOPSEMA will be notified of all recordable incidents, according to the requirements of Regulation 50 (4). Woodside will:

- provide a written record not later than 15 days after the end of the calendar month using a format consistent with the NOPSEMA Form – Recordable Environmental Incident Monthly Summary Report (Appendix E).

7.10.5.3 Other External Reporting Requirements and Notifications

In addition to the notification and reporting of environmental incidents defined under the Environment Regulations and Woodside requirements, the following incident reporting requirements also apply in the Operational Area if the spill originates from a vessel:

- Any oil pollution incidents in Commonwealth Waters will be reported (by the vessel master) to AMSA RCC as per Article 8 and Protocol I of MARPOL within two hours via the national emergency 24-hour notification contacts, and a written report within 24-hours of the request by AMSA. (This requirement is included in the Macedon Oil Pollution First Strike Plan; Appendix I).

If the ship is at sea, reports are to be made to:

Free call: 1800 641 792

Phone: 08 9430 2100 (Fremantle).

- Any spills greater than ten tonnes in Commonwealth Waters must be reported (by the vessel master) to AMSA within one hour. (This requirement is detailed in the Macedon Oil Pollution First Strike Plan; Appendix I). Reports are to be made via the national 24-hour emergency notification contacts (AusSAR: RCC):

Rescue Coordination Centre Australia (RCC Australia)

Phone: 02 6230 6811

Facsimile: 02 6230 6868

Telex: 62349

Free call: 1800 641 792

AFTN: YSARYCYX.

- A hydrocarbon spill incident with potential to significantly impact MNES must be reported to DCCEEW.
- If the activity described within this EP results in the unintentional death of or injury to a fauna that constitute MNES (i.e. species listed as Threatened or Migratory under the EPBC Act), and the activity was not authorised by a permit, the Secretary of the DCCEEW should be notified within seven days of becoming aware of the results of the activity:

The Secretary

DCCEEW

Hotline: 1800 803 772

Email: protected.species@environment.gov.au.

For hydrocarbon spill incidents, other agencies and organisations will be notified as appropriate to the nature and scale of the incident as per procedures and contact lists in the Oil Pollution Emergency Arrangements (Australia) and the Macedon Oil Pollution First Strike Plan (Appendix I), including but not limited to:

- A hydrocarbon spill incident with the potential to significantly impact MNES must be reported to DCCEEW.

7.11 Emergency Preparedness and Response

7.11.1 Overview

Under Regulation 22(8), the implementation strategy must contain an OPEP and provide for the updating of the OPEP. Regulation 22(9) outlines the requirements for the OPEP which must include adequate arrangements for responding to and monitoring of oil pollution.

A summary of how this EP and supporting documents address the various requirements of Environment Regulations relating to oil pollution response arrangements is shown in **Table 7-5**.

Table 7-5: Oil Pollution Preparedness and Response Overview

Content	Environment Regulations Reference	Document/Section Reference
Details (oil pollution response) control measures that will be used to reduce the impacts and risks of the activity to ALARP and an acceptable level	Regulation 21 (5), 22(2)	Oil Spill Preparedness and Response Mitigation Assessment (Appendix H).

Content	Environment Regulations Reference	Document/Section Reference
Describes the OPEP	Regulation 22 (8)	EP: Section 7.11 . Woodside's OPEP has the following components: Oil Pollution Emergency Arrangements (Australia) Macedon Oil Pollution First Strike Plan (Appendix I). Oil Spill Preparedness and Response Mitigation Assessment (Appendix H). In accordance with Regulation 56 of the Environmental Regulations the Woodside Oil Pollution Emergency Arrangements (Australia) was provided with the Scarborough Drilling and Completions EP, accepted by NOPSEMA on 1 December 2023
Details the arrangements for responding to and monitoring oil pollution (to inform response activities), including control measures	Regulation 22 (9)	Oil Spill Preparedness and Response Mitigation Assessment (Appendix H). Macedon Oil Pollution First Strike Plan Appendix I
Details the arrangements for updating and testing the oil pollution response arrangements	Regulation 22 (8)(12),(13)(14)	EP: Section 7.11 Oil Spill Preparedness and Response Mitigation Assessment (Appendix H).
Details provisions for monitoring impacts to the environment from oil pollution and response activities	Regulation 22(10)	Oil Spill Preparedness and Response Mitigation Assessment (Appendix H).
Demonstrates that the oil pollution response arrangements are consistent with the national system for oil pollution preparedness and control	Regulation 22(11)	Oil Pollution Emergency Arrangements (Australia) .

7.11.2 Emergency Response Training

Regulation 22(4) requires that the implementation strategy includes measures to ensure that employees and contractors have the appropriate competencies and training. Woodside has conducted a risk-based training needs analysis on positions required for effective emergency response.

Table 7-6: Emergency Response Training Requirements

IMT Position	Minimum Competency
Corporate Incident Management Team (CIMT) Incident Commander and Deputy Incident Commander	<ul style="list-style-type: none"> • IMT Fundamentals Course (internal course) or equivalent • ICS 100/200 • IMO3 or equivalent spill response specialist level with an oil spill response organisation (OSRO) • Participation in L2 oil spill activation exercise or skills maintenance
Operations, Planning, Logistics and Finance Sections, and other rostered members of the CIMT	<ul style="list-style-type: none"> • IMT Fundamentals Course or equivalent • ICS 100/200 • Oil spill theory • Participation in L2 oil spill activation, exercise or skills maintenance.
Environment Unit Leader	<ul style="list-style-type: none"> • IMT Fundamentals • ICS 100/200 • IMO2 or equivalent spill response specialist level with an OSRO

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	<ul style="list-style-type: none"> • Participation in L2 oil spill activation, exercise or skills maintenance
Note on competency/equivalency	
<p>In 2018 Woodside undertook a review of incident and crisis systems, processes and tools to assess whether these were fit-for purpose and has rolled out a change to the Crisis and emergency Management training and the oil spill response training requirements for both CIMT and field-based roles.</p> <p>The revised CIMT Fundamentals training Program and Incident and Crisis Leaders Development Program (ICLDP) align with the performance requirements of the PMAOMIR320 – <i>Manage Incident Response Information</i> and PMAOMOR418 - <i>Coordinate Incident Response</i>.</p> <p>In 2023, Woodside took the decision to align its global incident command arrangements to the Incident Command System (ICS). As such all rostered members of the Incident Management Team are trained up to ICS 200.</p> <p>In addition to baseline incident management training, all rostered members of the CIMT undertake a level of hydrocarbon spill response training. Depending upon the role, this may take the form of IMO training or completion of Woodside's internal oil spill training course (OSREC) which involves the completion of two online AMSA Modules (Introduction to National Plan and Incident Management; and Introduction to Oil Spills) and face-to-face training.</p> <p>Woodside Learning Services is responsible for collating and maintaining personnel training records. The HSP Dashboard reflects the competencies required for each oil spill role (IMT/operational).</p>	

7.11.3 Emergency Response Preparation

The CIMT based in Woodside’s head office, is the onshore coordination point for an offshore emergency. The CIMT is staffed by an appropriately skilled team available on call 24-hours a day. The purpose of the team is to coordinate incidents, maintain the safety of personnel, minimise damage to the environment and facilities, and to liaise with external agencies. A description of Woodside’s Incident Command Structure and arrangements is further detailed in the Woodside Oil Pollution Emergency Arrangements (OPEA)(Australia). Roles and responsibilities for facility emergency response are outlined in the Macedon Facility Safety Case and are consistent with the Macedon ERP and the Pipelines ERP.

Woodside has a number of ERPs in place, which detail the actions and resources available in the event of various emergency scenarios. Electronic copies of the ERPs are available on the facility Virtual Bookshelves and the intranet. Hard controlled copies are available on the facilities.

In addition, the Emergency Preparedness MSPS (M06) is in place to assure that in the event of an incident, the organisation is appropriately prepared for all necessary actions which may be required for the protection of People, Environment, Asset, Reputation and Livelihood.

7.11.3.1 Initial Response to Facility Incident

The facility is equipped with emergency shutdown systems designed to protect personnel, the facility and the environment from unsafe operating conditions and catastrophic situations.

Emergency shutdown systems are provided as a means of isolation in response to process upsets and facility conditions (including associated flowlines and risers) that could result in loss of hydrocarbon inventories, or to reduce the potential impact from a hydrocarbon loss of containment event on the facility. Provision has been made for process and facility alarm systems to provide early indication of any process upset conditions and potential hazardous events, including fire and gas alarms.

The key ERP relevant to the facility and subsea infrastructure (excluding the export pipeline) is the Macedon ERP. This plan covers health, safety, asset and environmental risks (including fire, structural integrity, sabotage, etc.) to ensure the range of occupational, asset and environmental risk exposures from incidents have been considered and plans are in place for their management. The plan provides specific details on the initial response required during events with potential significant environmental consequences such as a hydrocarbon spill, subsea hydrocarbon leak or potential collision.

The Pipelines ERP covers key ERP relevant to the export pipeline, as well as other major pipelines on Woodside's NWS facilities. The Macedon Oil Pollution First Strike Plan provides immediate actions required to commence a response (Appendix I). Vessels have SOPEPs in accordance with the requirements of MARPOL 73/78 Annex I. These plans outline responsibilities, specify procedures and identify resources available in the event of a hydrocarbon or chemical spill from vessel activities. The Macedon Oil Pollution First Strike Plan is intended to work in conjunction with the SOPEPs, if hydrocarbons are released to the marine environment from a vessel.

Woodside has established EPOs, EPSs and MCs to be used for hydrocarbon spill response during the Petroleum Activities Program, as detailed in Appendix H.

7.11.4 Hydrocarbon and Other Hazardous Materials Spill

A significant hydrocarbon spill or release during the Petroleum Activities Program is unlikely, but should such an event occur, it has the potential to cause serious environmental and reputational damage if not managed properly. The Woodside OPEA (Australia) document, supported by the Macedon First Strike Plan which provides tactical response guidance to the activity/area (Appendix I), and Appendix H of this EP, cover spill response for this Petroleum Activities Program.

The Security and Emergency Management Function is responsible for the management of Woodside's hydrocarbon spill response equipment and for the maintenance of hydrocarbon spill preparedness and response documentation. In the event of a major spill, Woodside will request that AMSA (administrator of the National Plan) provides support to Woodside through advice and access to equipment, people and liaison. The interface and responsibilities, as defined under the National Plan, are described in the OPEA (Australia). AMSA and Woodside have a MoU in place to support Woodside in the event of a hydrocarbon spill.

7.11.5 Emergency and Spill Response

Woodside categorises incidents in relation to response requirements as follows:

- **Level 1 Incident** – A Level 1 incident can be resolved through the use of existing resources, equipment and personnel. A Level 1 incident is contained, controlled and resolved by site / regionally based teams using existing resources and functional support services.
- **Level 2 Incident** – A Level 2 incident is characterised by a response that requires external operational support to manage the incident. It is triggered in the event the capabilities of the tactical level response are exceeded. This support is provided to the activity via the activation of all, or part of, the responsible CIMT.
- **Level 3 Incident** – A Level 3 incident or crisis is identified as a critical event that seriously threatens the organisation's People, the Environment, company Assets, Reputation, or Livelihood. At Woodside, the Crisis Management Team (CMT) manages the strategic impacts in order to respond to and recover from the threat to the company (material impacts, litigation, legal and commercial, reputation etc.). The CIMT may also be activated as required to manage the operational incident response requirements.

7.11.6 Emergency and Spill Response Drills and Exercises

Testing of Woodside's capability to respond to incidents will be conducted in alignment with the Emergency and Crisis Management Procedure. The scope, frequency and objective of these tests is described in **Table 7-7**. Woodside's emergency response testing regime is aligned to existing or developing risks associated with Woodside's operations and activities. Corporate hazards/risks outlined in the corporate risk register, respective Safety Cases or project Risk Registers, are the reference point for emergency management and crisis management exercise schedule

development. External participants may be invited to attend exercises, such as government agencies, specialist service providers, oil spill response organisations or industry members with which we have mutual aid arrangements.

The overall objective of exercising is to test procedures, skills and teamwork of the Emergency Response and Command Teams in their ability to respond to major incidents. After each exercise, the team holds a debrief session, during which the exercise is reviewed. Any lessons learnt or areas for improvement are identified and incorporated into revised procedures where appropriate.

Table 7-7: Testing of response capability

Response Category	Scope	Response Testing Frequency	Response Testing Objective
Level 1 Response	Drills are asset specific	Two comprehensive Level 1 'First Strike' drills conducted per year, per asset. Additional Level 1 emergency drills routinely conducted (approximately one per fortnight).	<ul style="list-style-type: none"> Comprehensive drill test elements of the Macedon Oil Pollution First Strike Plan for a Level 1 incident (Appendix I). Emergency drills are scheduled by each asset to test other aspects of their ERP.
Level 2 Response	Exercises are relevant to all Woodside assets	A minimum of one Emergency Management exercise is conducted biennially.	<ul style="list-style-type: none"> Testing both the facility IMT response and/or that of the CIMT following handover of incident control.
Level 3 Response		The number of CMT exercises conducted each year is determined by the Chief Executive Officer, in consultation with the VP of Security and Emergency Management.	<ul style="list-style-type: none"> Test the ability of the company to respond to and manage a crisis level incident.

7.11.7 Hydrocarbon Spill Response Testing of Arrangements

There are a number of arrangements which, in the event of a spill, will underpin Woodside's ability to implement a response across its petroleum activities. In order to ensure these arrangements are adequately tested, the Capability Development Team within Security and Emergency Management ensures tests are conducted in alignment with the Hydrocarbon Spill Testing of Arrangements Schedule.

Woodside's arrangements for spill response are common across its Australian operating assets and activities to ensure the controls are consistent. The overall objective of testing these arrangements is to ensure that Woodside maintains an ability to respond to a hydrocarbon spill, specifically to:

- Ensure relevant responders, contractors and key personnel understand and practise their assigned roles and responsibilities.
- Test response arrangements and actions to validate response plans.
- Ensure lessons learned are incorporated into Woodside's processes and procedures and improvements are made where required.

If new response arrangements are introduced, or existing arrangements significantly amended, additional testing is undertaken accordingly.

In addition to the testing of response capability described in **Table 7-7**, up to eight formal exercises are planned annually, across Woodside, to specifically test arrangements for responding to a hydrocarbon spill to the marine environment.

7.11.7.1 Testing of Arrangements Schedule

Woodside’s Testing of Arrangements Schedule (**Figure 7-3**) aligns with international good practice for spill preparedness and response management; the testing is compatible with the IPIECA (2004) Good Practice Guide and the Australian Institute for Disaster Resilience (AIDR) Australian Emergency Management Arrangements Handbook. If a spill occurs, enacting these arrangements will underpin Woodside’s ability to implement a response across its petroleum activities.

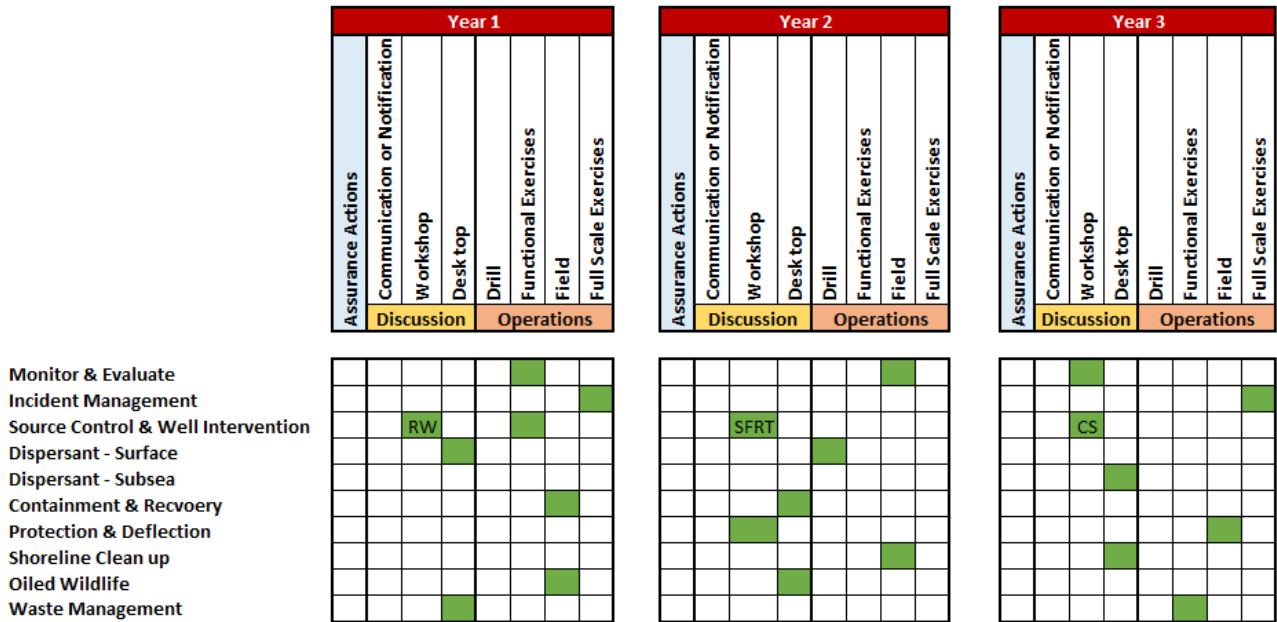


Figure 7-3: Indicative 3-yearly testing of arrangements schedule

The hydrocarbon spill arrangements shown in the rows of the schedule are tested against Woodside’s regulatory commitments. Each arrangement has a support agency/company and an area to be tested (e.g., capability, equipment and personnel). For example, an arrangement could be to test Woodside’s personnel capability for conducting scientific monitoring, or the ability of the Australian Marine Oil Spill Centre to provide response personnel and equipment.

The vertical columns relate to how hydrocarbon spill arrangements will be tested over the 3-year rolling schedule. The sub-heading for the column describes the standard method of testing likely to be undertaken (e.g., discussion exercise, desktop exercise), and the green cells indicate the arrangements that could be tested for each method.

Some arrangements may be tested across multiple exercises (e.g., critical arrangements) or via other ‘additional assurance’ methods outside the formal Testing of Arrangements Schedule that also constitute sufficient evidence of testing of arrangements (e.g., audits, no-notice drills, internal exercises, assurance drills).

7.11.8 Cyclone and Dangerous Weather Preparation

Tropical cyclones and other severe weather events are a potential risk to the safety and health of personnel and can potentially cause spills of hazardous materials into the environment from infrastructure and/or damaged vessels.

Subsea support vessels receive regular forecasts from the Bureau of Meteorology (BoM). If a cyclone (or severe weather event) is forecast, the path and its development will be plotted and monitored using the BoM data. If there is the potential for the cyclone (severe weather event) to affect the Petroleum Activities Program, the asset Cyclone Contingency Plan and the vessel’s

Cyclone Contingency Plan will be actioned. If required, vessels can transit from the proposed track of the cyclone (severe weather event).

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9. LIST OF TERMS AND ACRONYMS

Acronym	Description
@	At
~	Approximately
<	Less/fewer than
>	Greater/more than
≤	Less than or equal to
≥	Greater than or equal to
°C	Degrees Celsius
3D	Three-dimensional
ACN	Australian Company Number
AHO	Australian Hydrographic Office
AIMS	Australian Institute of Marine Science
ALARP	As low as reasonably practicable
AMP	Australian Marine Park
AMSA	Australian Maritime Safety Authority
APPEA	Australian Petroleum Production and Exploration Association
AS/NZS	Australian Standard/New Zealand Standard
AW	Abandoned wells with Wellhead (AW)
BESS	Battery Energy Storage System
BIA	Biologically Important Area
BoM	Bureau of Meteorology
BOP	Blowout Preventer
CCR	Central Control Room
CIMT	Corporate Incident Management Team
cm	Centimetre
cm ³	Cubic centimetre
CMT	Crisis Management Team
CO	Carbon monoxide
CO ₂	Carbon dioxide
COO	Chief Operations Officer
cP	Centipoise
CS	Cost Sacrifice
CV	Company Value
DAWE	Department of Agriculture, Water and the Environment
dB re 1 µPa	Decibels relative to one micropascal; the unit used to measure the intensity of an underwater sound
DCCEEW	Department of Climate Change, Energy, the Environment and Water

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Acronym	Description
DEMIRS	Western Australian Department of Energy, Mines, Industry Regulation and Safety
DNP	Director of National Parks
DoEE	Commonwealth Department of the Environment and Energy
DoT	Western Australian Department of Transport
DP	Dynamic positioning
eCAR	Environmental Commitments and Actions Register
EDU	Electrical distribution unit
EFL	Electrical flying lead
EMBA	Environment that may be affected
ENVID	Environment Identification (study)
EP	Environment Plan
EP Act	WA <i>Environmental Protection Act 1986</i>
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPO	Environmental Performance Outcome
EPS	Environment Performance Standard
ERP	Emergency Response Plan
ESD	Ecologically Sustainable Development
ETA	Exploration wells Temporary Abandoned (ETA)
EVP	Executive Vice President
FPSO	Floating production, storage, and offtake
g	Gram
GP	Good Practice
GWA	Goodwyn Alpha
HAZID	Hazard identification (study)
HFL	Hydraulic flying lead
HP	High Pressure
HQ	Hazard Quotient
HSE	Health, Safety, and Environment
HSEC	Health, Safety and Environment Coordinator
HVAC	Heating, ventilation and air conditioning
IMMR	Inspection, monitoring, maintenance and repair
IMS	Invasive Marine Species
IMSMP	Invasive Marine Species Management Plan
IPIECA	International Petroleum Industry Environmental Conservation Association
ISO	International Organization for Standardization
IUCN	International Union for Conservation of Nature
KEF	Key Ecological Feature

Acronym	Description
kg	Kilogram
kHz	Kilohertz
km	Kilometre
kn	Knot
KPI	Key Performance Indicator
kW	Kilowatt
L	Litre
LAT	Lowest Astronomical Tide
LCS	Legislation, Codes and Standards
LNG	Liquefied Natural Gas
LP	Low Pressure
m	Metre
m/s	Metres per second
m ²	Square metre
m ³	Cubic metre
MAE	Major Accident Event
MARPOL	The International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
MBES	Multibeam Sonar
MC	Measurement Criteria
MEE	Major Environmental Event
MeOH	Methanol
mg	Milligram
ml	Millilitre
MNES	Matters of National Environmental Significance
MoC	Management of Change
MoU	Memorandum of Understanding
MSPS	Management System Performance Standards
MW	Megawatt
n.d.	No date
N/A	Not Applicable
N ₂ O	Nitrous oxide
NGERS	National Greenhouse and Energy Reporting Scheme
NIMS	Non-indigenous Marine Species
nm	Nautical mile
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NOPTA	National Offshore Petroleum Titles Administrator

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Acronym	Description
NORM	Naturally Occurring Radioactive Material
NO _x	Oxides of nitrogen
NPI	National Pollutant Inventory
NRA	North Rankin Alpha
NWMR	North-west Marine Region
NWS	North West Shelf
OCIMF	Oil Companies International Marine Forum
OCNS	Offshore Chemical Notification Scheme
OIM	Offshore Installation Manager
OIW	Oil in water
OPEA	Oil Pollution Emergency Arrangements (Australia)
OPEP	Oil Pollution Emergency Plan
OPGGGS Act	Commonwealth <i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i>
OSPAR	Oslo–Paris Convention for the Protection of the Marine Environment of the North East Atlantic
PAH	Polycyclic aromatic hydrocarbon
pH	Measure of acidity or basicity of a solution
PJ	Professional Judgement
PLONOR	Pose Little or no Risk to the Environment
PMST	Protected Matters Search Tool
ppb	Parts per billion
ppm	Parts per million
PSM	Process Safety Management
PSZ	Petroleum safety zone
PW	Produced Water
RBA	Risk-based Analysis
RBI	Risk-based Inspection
RCC	Rescue Coordination Centre
RO	Reverse osmosis
ROV	Remotely operated vehicle
SCM	Subsea Control Module
SIMAP	Spill Impact Mapping and Analysis program
sm ³	Standard cubic metres
SOPEP	Ship Oil Pollution Emergency Plan
SO _x	Sulfur oxides
SSIV	Sub-sea Isolation Valve
SV	Societal Value

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Acronym	Description
T	Tonne
UK	United Kingdom
VOC	Volatile Organic Compound
VP	Vice President
WA	Western Australia
WMS	Woodside Management System
Woodside	Woodside Energy Limited
WOMP	Well Operations Management Plan

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APPENDIX A WOODSIDE ENVIRONMENT & BIODIVERSITY POLICY

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Environment and Biodiversity Policy

OBJECTIVE

Woodside recognises the intrinsic value of nature and the importance of conserving biodiversity and ecosystem services to support the sustainable development of our society. We are committed to doing our part. We understand and embrace our responsibility to undertake activities in an environmentally sustainable way.

PRINCIPLES

Woodside commits to:

- Implementing a systematic approach to the management of the impacts and risks of our operating activities on an ongoing basis, including emissions and air quality, discharge and waste management, water management, biodiversity and protected areas.
- Applying the mitigation hierarchy principle (avoid, minimise, restore) and a continuous improvement approach to ensure we maintain compliance, improve resource use efficiency and reduce our environmental impacts.
- Embedding environmental and biodiversity management, and opportunities, in our business planning and decision making processes.
- Complying with relevant laws and regulations and applying responsible standards where laws do not exist.
- Not undertaking new exploration or development of hydrocarbons within the boundaries of natural sites on the UNESCO World Heritage List (as specified at 1 December 2022). Existing activity may continue if compatible with maintenance of the listed outstanding universal values.
- Not undertaking new exploration or development of hydrocarbons within IUCN Protected Areas (as specified at 1 December 2022) unless compatible with management plans in place for the area. Existing activity may continue if compatible with management plans in place for the area.
- Achieving net zero deforestation¹ associated with new projects that take a Final Investment Decision (FID) after 1 December 2022.
- Developing Biodiversity Action Plans for all new major projects (CAPEX >USD\$2 billion) that take a FID after 1 December 2022.
- Supporting positive biodiversity outcomes in regions and areas in which we operate.
- Setting targets and publicly reporting on our environmental and biodiversity performance.

APPLICABILITY

Responsibility for the application of this Policy rests with all Woodside employees, contractors and joint venturers engaged in activities under Woodside operational control. Woodside managers are also responsible for promotion of this Policy in non-operated joint ventures.

This Policy will be reviewed regularly and updated as required.

Approved by the Woodside Energy Group Ltd Board in December 2022.

¹ Definition of Forest: 'trees higher than 5 metres and a canopy cover of more than 10 percent on the land to be cleared'.

APPROVED

Health and Safety Policy

OBJECTIVES

At Woodside we believe that process and personal safety related incidents, and occupational illnesses are preventable. We strive to be an industry leader in health and safety and are committed to managing our activities to minimise adverse health and safety risk related impacts.

PRINCIPLES

Woodside will achieve this by:

- Implementing a systematic approach to health, personal safety, and process safety risk management.
- Maintaining a culture in which everybody is aware of their health and safety obligations and are empowered to speak up and intervene on health and safety issues.
- Identifying current and emerging hazards across the value chain activities to reduce risks to as low as reasonably practicable.
- Embedding health and safety management in our business planning and decision-making processes.
- Integrating health, personal safety and process safety requirements when designing, purchasing, constructing, and modifying equipment and facilities including requiring our contractors to comply with our HSE expectations in a mutually beneficial manner.
- Complying with relevant laws and regulations and applying responsible standards where laws do not exist.
- Setting targets and publicly reporting on our health and safety performance to help us continually improve.

APPLICABILITY

Responsibility for the application of this Policy rests with all Woodside employees, contractors and joint venturers engaged in activities under Woodside operational control. Woodside leaders are also responsible for promotion of this Policy in non-operated joint ventures.

This Policy will be reviewed regularly and updated as required.

Revised by the Woodside Energy Group Ltd Board In December 2022

APPROVED

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Risk Management Policy

OBJECTIVES

Woodside recognises that risk is inherent in our business and the effective management of risk is vital to deliver our strategic objectives, continued growth and success. We are committed to managing risks in a proactive and effective manner as a source of competitive advantage.

Our approach protects us against potential negative impacts, enables us to take risk for reward and improves our resilience against emerging risks. The objective of our risk management framework is to provide a single consolidated view of risks across the company to understand our full risk exposure and prioritise risk management and governance.

The success of our approach lies in the responsibility placed on everyone at all levels to proactively identify, assess and treat risks relating to the objectives they are accountable for delivering.

PRINCIPLES

Woodside achieves these objectives by:

- Applying a structured and comprehensive framework for the identification, assessment and treatment of current risks and response to emerging risks;
- Ensuring line of sight of financial and non-financial risks at appropriate levels of the organisation;
- Demonstrating leadership and commitment to integrating risk management into our business activities and governance practices;
- Recognising the value of stakeholder engagement, best available information and proactive identification of potential changes in external and internal context;
- Embedding risk management into our critical business processes and control framework;
- Understanding our exposure to risk and tolerance for uncertainty to inform our decision making and assure that Woodside is operating with due regard to the risk appetite endorsed by the Board; and
- Evaluating and improving the effectiveness and efficiency our approach.

APPLICABILITY

The Managing Director of Woodside is accountable to the Board of Directors for ensuring this Policy is effectively implemented.

Responsibility for the application of this Policy rests with all Woodside employees, contractors and joint venturers engaged in activities under Woodside operational control. Woodside managers are also responsible for promotion of this Policy in non-operated joint ventures.

This Policy will be reviewed regularly and updated as required.

Reviewed by the Woodside Energy Group Ltd Board in December 2022.

APPENDIX B RELEVANT REQUIREMENTS

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The below table refers to Commonwealth Legislation related to the project.

Commonwealth Legislation	Legislation Summary
Aboriginal and Torres Strait Islander Heritage Protection Act 1984	<p>The Act seeks to “preserve and protect places, areas and objects of particular significance” to Aboriginal people. Under the Section 9 and 10 provisions of the Act, the Minister for the Environment may declare significant Aboriginal areas temporarily or permanently protected if they are considered under threat. Similar declarations regarding Aboriginal objects can be made under Section 12.</p> <p>Under Section 22 of the Act, the contravention of any of these declarations is an offence. Additionally, the discovery of any Aboriginal remains must be reported to the Minister under Section 20.</p> <p>Damage or interference with Aboriginal objects or places is not an offence under the ATSIHP Act except within Victoria under Section 21U.</p>
Air Navigation Act 1920 <ul style="list-style-type: none"> • Air Navigation Regulations 1947 • Air Navigation (Aerodrome Flight Corridors) Regulations 1994 • Air Navigation (Aircraft Engine Emissions) Regulations 1995 • Air Navigation (Aircraft Noise) Regulations 1984 • Air Navigation (Fuel Spillage) Regulations 1999 	This Act relates to the management of air navigation.
Australian Maritime Safety Authority Act 1990	This Act establishes a legal framework for the Australian Maritime Safety Authority (AMSA), which represents the Australian Government and international forums in the development, implementation and enforcement of international standards including those governing ship safety and marine environment protection. AMSA is responsible for administering the Marine Orders in Commonwealth waters.
Australian Radiation Protection and Nuclear Safety Act 1998	This Act relates to the protection of the health and safety of people, and the protection of the environment from the harmful effects of radiation.
Biosecurity Act 2015 <ul style="list-style-type: none"> • Quarantine Regulations 2000 • Biosecurity Regulation 2016 • Australian Ballast Water Management Requirements 2017 	<p>This Act provides the Commonwealth with powers to take measures of quarantine, and implement related programs as are necessary, to prevent the introduction of any plant, animal, organism or matter that could contain anything that could threaten Australia’s native flora and fauna or natural environment. The Commonwealth’s powers include powers of entry, seizure, detention and disposal.</p> <p>This Act includes mandatory controls on the use of seawater as ballast in ships and the declaration of sea vessels voyaging out of and into Commonwealth waters. The Regulations stipulate that all information regarding the voyage of the vessel and the ballast water is declared correctly to the quarantine officers.</p>

Commonwealth Legislation	Legislation Summary
<p><i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <ul style="list-style-type: none"> <i>Environment Protection and Biodiversity Conservation Regulations 2000</i> 	<p>This Act protects matters of national environmental significance (NES). It streamlines the national environmental assessment and approvals process, protects Australian biodiversity and integrates management of important natural and culturally significant places.</p> <p>Under this Act, actions that may be likely to have a significant impact on matters of NES must be referred to the Commonwealth Environment Minister.</p>
<p><i>Environment Protection (Sea Dumping) Act 1981</i></p> <ul style="list-style-type: none"> <i>Environment Protection (Sea Dumping) Regulations 1983</i> 	<p>This Act provides for the protection of the environment by regulating dumping matter into the sea, incineration of waste at sea and placement of artificial reefs.</p>
<p><i>Industrial Chemicals (Notification and Assessment Act) 1989</i></p> <ul style="list-style-type: none"> <i>Industrial Chemicals (Notification and Assessment) Regulations 1990</i> 	<p>This Act creates a national register of industrial chemicals. The Act also provides for restrictions on the use of certain chemicals which could have harmful effects on the environment or health.</p>
<p><i>National Environment Protection Measures (Implementation) Act 1998</i></p> <ul style="list-style-type: none"> <i>National Environment Protection Measures (Implementation) Regulations 1999</i> 	<p>This Act and Regulations provide for the implementation of National Environment Protection Measures (NEPMs) to protect, restore and enhance the quality of the environment in Australia and ensure that the community has access to relevant and meaningful information about pollution.</p> <p>The National Environment Protection Council has made NEPMs relating to ambient air quality, the movement of controlled waste between states and territories, the national pollutant inventory, and used packaging materials.</p>
<p><i>National Greenhouse and Energy Reporting Act 2007</i></p> <ul style="list-style-type: none"> <i>National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015</i> 	<p>This Act and associated Rule establishes the legislative framework for the NGER scheme for reporting greenhouse gas emissions and energy consumption and production by corporations in Australia.</p>
<p><i>Navigation Act 2012</i></p> <ul style="list-style-type: none"> <i>Marine order 12 – Construction – subdivision and stability, machinery and electrical installations</i> <i>Marine order 30 - Prevention of collisions</i> <i>Marine order 47 – Offshore Industry units</i> <i>Marine order 57 - Helicopter operations</i> <i>Marine order 91 - Marine pollution prevention—oil</i> <i>Marine order 93 - Marine pollution prevention—noxious liquid substances</i> <i>Marine order 94 - Marine pollution prevention—packaged harmful substances</i> <i>Marine order 96 - Marine pollution prevention—sewage</i> <i>Marine order 97 - Marine pollution prevention—air pollution</i> 	<p>This Act regulates navigation and shipping including Safety of Life at Sea (SOLAS). The Act will apply to some activities of the MODU and project vessels.</p> <p>This Act is the primary legislation that regulates ship and seafarer safety, shipboard aspects of marine environment protection and pollution prevention.</p>

Commonwealth Legislation	Legislation Summary
<p><i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i></p> <ul style="list-style-type: none"> • <i>Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023</i> • <i>Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration) Regulations 2011</i> • <i>Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009</i> 	<p>This Act is the principal Act governing offshore petroleum exploration and production in Commonwealth waters. Specific environmental, resource management and safety obligations are set out in the Regulations listed.</p>
<p><i>Ozone Protection and Synthetic Greenhouse Gas Management Act 1989</i></p> <ul style="list-style-type: none"> • <i>Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995</i> 	<p>This Act provides for measures to protect ozone in the atmosphere by controlling and ultimately reducing the manufacture, import and export of ozone depleting substances (ODS) and synthetic greenhouse gases, and replacing them with suitable alternatives. The Act will only apply to Woodside if it manufactures, imports or exports ozone depleting substances.</p>
<p><i>Protection of the Sea (Powers of Intervention) Act 1981</i></p>	<p>This Act authorises the Commonwealth to take measures for the purpose of protecting the sea from pollution by oil and other noxious substances discharged from ships and provides legal immunity for persons acting under an AMSA direction.</p>
<p><i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i> <i>Protection of the Sea (Prevention of Pollution from Ships) (Orders) Regulations 1994</i></p> <ul style="list-style-type: none"> • <i>Marine order 91 - Marine pollution prevention—oil</i> • <i>Marine order 93 - Marine pollution prevention—noxious liquid substances</i> • <i>Marine order 94 - Marine pollution prevention—packaged harmful substances</i> • <i>Marine order 95 - Marine pollution prevention—garbage</i> • <i>Marine order 96 - Marine pollution prevention—sewage</i> <p><i>Maritime Legislation Amendment (Prevention of Air Pollution from Ships) Act 2007</i> MARPOL Convention</p>	<p>This Act relates to the protection of the sea from pollution by oil and other harmful substances discharged from ships. Under this Act, discharge of oil or other harmful substances from ships into the sea is an offence. There is also a requirement to keep records of the ships dealing with such substances.</p> <p>The Act applies to all Australian ships, regardless of their location. It applies to foreign ships operating between 3 nautical miles (nm) off the coast out to the end of the Australian Exclusive Economic Zone (200 nm). It also applies within the 3 nm of the coast where the State/Northern Territory does not have complementary legislation.</p> <p>All the Marine Orders listed, except for Marine Order 95, are enacted under both the <i>Navigation Act 2012</i> and the <i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i>.</p> <p>This Act is an amendment to the <i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i>. This amended Act provides the protection of the sea from pollution by oil and other harmful substances discharged from ships.</p>
<p><i>Protection of the Sea (Harmful Antifouling Systems) Act 2006</i></p> <ul style="list-style-type: none"> • <i>Marine order 98—(Marine pollution—anti-fouling systems)</i> 	<p>This Act relates to the protection of the sea from the effects of harmful anti-fouling systems. It prohibits the application or reapplication of harmful anti-fouling compounds on Australian ships or foreign ships that are in an Australian shipping facility.</p>
<p><i>Underwater Cultural Heritage Act 2018</i></p> <ul style="list-style-type: none"> • Underwater Cultural Heritage Guidance for Offshore Developments • DRAFT Guidelines to Protect Underwater Cultural Heritage 	<p>This Act prescribes penalties for damage to protected underwater cultural heritage without a permit under Section 30 or in contravention of a permit in Section 28. Protected Underwater cultural heritage is prescribed in Section 16 to automatically include the remains and associated artefacts of any vessel or aircraft that has been in Australian waters for 75 years, whether known or unknown. This protection is also extended to underwater cultural heritage in Commonwealth waters specified by the</p>

Commonwealth Legislation	Legislation Summary
	Environment Minister under Section 17. Without a declaration under this section, Aboriginal underwater cultural heritage is not protected under the UCH Act.

APPENDIX C EPBC ACT PROTECTED MATTERS SEARCH TOOL REPORTS

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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: 11-Apr-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:	24
Listed Migratory Species:	40

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	62
Whales and Other Cetaceans:	27
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
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:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	18
Key Ecological Features (Marine):	2
Biologically Important Areas:	8
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

EEZ and Territorial Sea

Listed Threatened Species

[\[Resource Information \]](#)

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

Scientific Name

Threatened Category

Presence Text

BIRD

[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

[Macronectes giganteus](#)

Southern Giant-Petrel, Southern Giant Petrel [1060]

Endangered

Species or species habitat may occur within area

[Numenius madagascariensis](#)

Eastern Curlew, Far Eastern Curlew [847]

Critically Endangered

Species or species habitat may occur within area

[Sternula nereis nereis](#)

Australian Fairy Tern [82950]

Vulnerable

Foraging, feeding or related behaviour likely to occur within area

[Thalassarche carteri](#)

Indian Yellow-nosed Albatross [64464]

Vulnerable

Species or species habitat may occur within area

FISH

Scientific Name	Threatened Category	Presence Text
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 likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
REPTILE		
Aipysurus apraefrontalis Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Congregation or aggregation known 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 known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Congregation or aggregation known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
SHARK		

Scientific Name	Threatened Category	Presence Text
Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area

Listed Migratory Species [[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat may occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat may occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Caretta caretta Loggerhead Turtle [1763]	Endangered	Congregation or aggregation known 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 known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Congregation or aggregation known to occur within area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
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 known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area

Scientific Name	Threatened Category	Presence Text
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sousa sahalensis as Sousa chinensis Australian Humpback Dolphin [87942]		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 known 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

Scientific Name	Threatened Category	Presence Text
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
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		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 overfly marine area

Scientific Name	Threatened Category	Presence Text
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
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
Fish		
Acentronura larsonae Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area
Bulbonaricus brauni Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area

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 latispinosus Muiron Island Pipefish [66196]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Doryrhamphus multiannulatus Many-banded Pipefish [66717]		Species or species habitat may occur within area
Doryrhamphus negrosensis Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area
Festucalex scalaris Ladder Pipefish [66216]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area
Halicampus spirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus 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
Phoxocampus belcheri Black Rock Pipefish [66719]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
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 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

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	Congregation or aggregation known 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
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known 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
Ephalophis greyi North-western Mangrove Seasnake [1127]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Congregation or aggregation known to occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may 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 acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to 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 as Kogia simus Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Orcaella heinsohni as Orcaella brevirostris Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Sousa sahalensis as Sousa chinensis Australian Humpback Dolphin [87942]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
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

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
Nov - May		

Scientific Name	Behaviour	Presence
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Known to occur

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Action clearly unacceptable			
Highlands 3D Marine Seismic Survey	2012/6680	Action Clearly Unacceptable	Completed
Controlled action			
Enfield full field development	2001/257	Controlled Action	Post-Approval
Pyrenees Oil Fields Development	2005/2034	Controlled Action	Post-Approval
Not controlled action			
Exploration drilling well WA-155-P(1)	2003/971	Not Controlled Action	Completed
Exploration Well in Permit Area WA-155-P(1)	2002/759	Not Controlled Action	Completed
HCA05X Macedon Experimental Survey	2004/1926	Not Controlled Action	Completed
Not controlled action (particular manner)			
2D and 3D seismic surveys	2005/2151	Not Controlled Action (Particular Manner)	Post-Approval
Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA	2013/7081	Not Controlled Action (Particular Manner)	Post-Approval
CVG 3D Marine Seismic Survey	2012/6654	Not Controlled Action (Particular Manner)	Post-Approval
Gazelle 3D Marine Seismic Survey in WA-399-P and WA-42-L	2010/5570	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval
Huzzas phase 2 marine seismic survey, Exmouth Plateau, Northern Carnarvon Basin, WA	2013/7093	Not Controlled Action (Particular Manner)	Post-Approval
Macedon Gas Field Development	2008/4605	Not Controlled Action (Particular Manner)	Post-Approval
Ocean Bottom Cable Seismic Program, WA-264-P	2007/3844	Not Controlled Action (Particular Manner)	Post-Approval
Ocean Bottom Cable Seismic Survey	2005/2017	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees 4D Marine Seismic Monitor Survey, HCA12A	2012/6579	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees-Macedon 3D marine seismic survey	2005/2325	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
Ancient coastline at 125 m depth contour	North-west
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	North-west

Biologically Important Areas

Scientific Name	Behaviour	Presence
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Scientific Name	Behaviour	Presence
Marine Turtles		
Caretta caretta Loggerhead Turtle [1763]	Internesting buffer	Known to occur
Chelonia mydas Green Turtle [1765]	Internesting buffer	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting buffer	Known to occur
Seabirds		
Ardena pacifica Wedge-tailed Shearwater [84292]	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
Megaptera novaeangliae Humpback Whale [38]	Migration (north and south)	Known to occur

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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

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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: 09-May-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:	1
National Heritage Places:	1
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	1
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	47
Listed Migratory Species:	60

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:	5
Commonwealth Heritage Places:	2
Listed Marine Species:	93
Whales and Other Cetaceans:	32
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	6
Habitat Critical to the Survival of Marine Turtles:	4

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	10
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	106
Key Ecological Features (Marine):	5
Biologically Important Areas:	31
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties [\[Resource Information \]](#)

Name	State	Legal Status
The Ningaloo Coast	WA	Declared property

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

Name	State	Legal Status
Natural		
The Ningaloo Coast	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
EEZ and Territorial Sea

Listed Threatened Species [\[Resource Information \]](#)

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

Scientific Name	Threatened Category	Presence Text
BIRD		
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
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	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
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Critically Endangered	Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Malurus leucopterus edouardi White-winged Fairy-wren (Barrow Island), Barrow Island Black-and-white Fairy-wren [26194]	Vulnerable	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Breeding known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
CRUSTACEAN		
Kumonga exleyi Cape Range Remipede [86875]	Vulnerable	Species or species habitat likely to occur within area
FISH		
Milyeringa veritas Cape Range Cave Gudgeon, Blind Gudgeon [66676]	Vulnerable	Species or species habitat known to occur within area
Ophisternon candidum Blind Cave Eel [66678]	Vulnerable	Species or species habitat known to occur within area
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Breeding known to occur within area
MAMMAL		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Bettongia lesueur Barrow and Boodie Islands subspecies Boodie, Burrowing Bettong (Barrow and Boodie Islands) [88021]	Vulnerable	Translocated population known to occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Isoodon auratus barrowensis Golden Bandicoot (Barrow Island) [66666]	Vulnerable	Species or species habitat known to occur within area
Lagorchestes conspicillatus conspicillatus Spectacled Hare-wallaby (Barrow Island) [66661]	Vulnerable	Species or species habitat known to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
Osphranter robustus isabellinus Barrow Island Wallaroo, Barrow Island Euro [89262]	Vulnerable	Species or species habitat likely to occur within area
Petrogale lateralis lateralis Black-flanked Rock-wallaby, Moororong, Black-footed Rock Wallaby [66647]	Endangered	Species or species habitat known to occur within area
Rhinonicteris aurantia (Pilbara form) Pilbara Leaf-nosed Bat [82790]	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 known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Ctenotus zasticus Hamelin Ctenotus [25570]	Vulnerable	Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
SHARK		
Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat known to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardena carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area
Ardena pacifica Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area
Hydroprogne caspia Caspian Tern [808]		Breeding known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may 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]		Species or species habitat may occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	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 bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding 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 known to occur within area
Dugong dugon Dugong [28]		Breeding known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may 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 known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sousa sahalensis as Sousa chinensis Australian Humpback Dolphin [87942]		Species or species habitat known to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Migratory Terrestrial Species		
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

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 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 may occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known 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
Limnodromus semipalmatus Asian Dowitcher [843]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely 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 - EXMOUTH VLF TRANSMITTER STATION [50123]	WA
Defence - EXMOUTH VLF TRANSMITTER STATION [50122]	WA
Defence - LEARMONTH - AIR WEAPONS RANGE [50193]	WA
Defence - LEARMONTH RADAR SITE - VLAMING HEAD EXMOUTH [50001]	WA
Unknown	
Commonwealth Land - [52236]	WA

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

Name	State	Status
Natural		
Learmonth Air Weapons Range Facility	WA	Listed place
Ningaloo Marine Area - Commonwealth Waters	WA	Listed place

Listed Marine Species [\[Resource Information \]](#)

Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area

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 overfly marine area
Ardena carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area
Ardena pacifica as Puffinus pacificus Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat 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 may occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
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
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area overfly marine area
Chroicocephalus novaehollandiae as Larus novaehollandiae Silver Gull [82326]		Breeding known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area overfly marine area
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Breeding known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]		Species or species habitat may occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may 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
Onychoprion fuscatus as Sterna fuscata Sooty Tern [90682]		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 known to occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour likely to occur within 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

Scientific Name	Threatened Category	Presence Text
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area
Sternula albifrons as Sterna albifrons Little Tern [82849]		Species or species habitat may occur within area
Sternula nereis as Sterna nereis Fairy Tern [82949]		Breeding known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalasseus bengalensis as Sterna bengalensis Lesser Crested Tern [66546]		Breeding known to occur within area
Thalasseus bergii as Sterna bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area
Fish		
Acentronura larsonae Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area
Bulbonaricus brauni Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Choeroichthys latispinosus Muiron Island Pipefish [66196]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Doryrhamphus multiannulatus Many-banded Pipefish [66717]		Species or species habitat may occur within area
Doryrhamphus negrosensis Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area
Festucalex scalaris Ladder Pipefish [66216]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Halicampus spirostris 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
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 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
Phoxocampus belcheri Black Rock Pipefish [66719]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammal		
Dugong dugon Dugong [28]		Breeding known to occur within area
Reptile		
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 known to occur within area

Scientific Name	Threatened Category	Presence Text
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	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Chitulia ornata as Hydrophis ornatus Spotted Seasnake, Ornate Reef Seasnake [87377]		Species or species habitat may occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known 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
Ephalophis greyi North-western Mangrove Seasnake [1127]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Hydrophis elegans Elegant Seasnake [1104]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Leioselasma czeblukovi as Hydrophis czeblukovi Fine-spined Seasnake, Geometrical Seasnake [87374]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding 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 acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Indopacetus pacificus Longman's Beaked Whale [72]		Species or species habitat may occur within area
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area
Kogia sima as Kogia simus 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
Mesoplodon ginkgodens Ginkgo-toothed Beaked Whale, Ginkgo-toothed Whale, Ginkgo Beaked Whale [59564]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Orcaella heinsohni as Orcaella brevirostris Australian Snubfin Dolphin [81322]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Sousa sahalensis as Sousa chinensis Australian Humpback Dolphin [87942]		Species or species habitat known to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
Steno bredanensis Rough-toothed Dolphin [30]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence
Tursiops aduncus (Arafura/Timor Sea populations)		
Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Tursiops truncatus s. str.		
Bottlenose Dolphin [68417]		Species or species habitat may occur within area
Ziphius cavirostris		
Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Australian Marine Parks		[Resource Information]
Park Name	Zone & IUCN Categories	
Gascoyne	Habitat Protection Zone (IUCN IV)	
Gascoyne	Multiple Use Zone (IUCN VI)	
Montebello	Multiple Use Zone (IUCN VI)	
Ningaloo	National Park Zone (IUCN II)	
Ningaloo	Recreational Use Zone (IUCN IV)	
Ningaloo	Recreational Use Zone (IUCN IV)	

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
Nov-Feb		
Caretta caretta		
Loggerhead Turtle [1763]	Nesting	Known to occur
Nov - May		
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Nesting	Known to occur

Scientific Name	Behaviour	Presence
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Extra Information

State and Territory Reserves [\[Resource Information \]](#)

Protected Area Name	Reserve Type	State
Barrow Island	Nature Reserve	WA
Barrow Island	Marine Management Area	WA
Barrow Island	Marine Park	WA
Boodie, Double Middle Islands	Nature Reserve	WA
Bundegi Coastal Park	5(1)(h) Reserve	WA
Cape Range	National Park	WA
Jurabi Coastal Park	5(1)(h) Reserve	WA
Muiron Islands	Nature Reserve	WA
Muiron Islands	Marine Management Area	WA
Ningaloo	Marine Park	WA

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

Wetland Name	State
Cape Range Subterranean Waterways	WA

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

Title of referral	Reference	Referral Outcome	Assessment Status
Action clearly unacceptable			
Highlands 3D Marine Seismic Survey	2012/6680	Action Clearly Unacceptable	Completed
Controlled action			
'Van Gogh' Petroleum Field Development	2007/3213	Controlled Action	Post-Approval
Construct and operate LNG & domestic gas plant including	2008/4469	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
onshore and offshore facilities - Wheatston			
Development of Coniston/Novara fields within the Exmouth Sub-basin	2011/5995	Controlled Action	Post-Approval
Development of Stybarrow petroleum field incl drilling and facility installation	2004/1469	Controlled Action	Post-Approval
Enfield full field development	2001/257	Controlled Action	Post-Approval
Equus Gas Fields Development Project, Carnarvon Basin	2012/6301	Controlled Action	Completed
Gorgon Gas Development	2003/1294	Controlled Action	Post-Approval
Gorgon Gas Development 4th Train Proposal	2011/5942	Controlled Action	Post-Approval
Greater Enfield (Vincent) Development	2005/2110	Controlled Action	Post-Approval
Light Crude Oil Production	2001/365	Controlled Action	Post-Approval
Ningaloo Lighthouse Development, 17km north west Exmouth, Western Australia	2020/8693	Controlled Action	Assessment Approach
Pluto Gas Project	2005/2258	Controlled Action	Completed
Pyrenees Oil Fields Development	2005/2034	Controlled Action	Post-Approval
Vincent Appraisal Well	2000/22	Controlled Action	Post-Approval
Yardie Creek Road Realignment Project	2021/8967	Controlled Action	Assessment Approach
Not controlled action			
'Van Gogh' Oil Appraisal Drilling Program, Exploration Permit Area WA-155-P(1)	2006/3148	Not Controlled Action	Completed
Bultaco-2, Laverda-2, Laverda-3 and Montesa-2 Appraisal Wells	2000/103	Not Controlled Action	Completed
Carnarvon 3D Marine Seismic Survey	2004/1890	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Construction and operation of an unmanned sea platform and connecting pipeline to Varanus Island for	2004/1703	Not Controlled Action	Completed
Development of Halyard Field off the west coast of WA	2010/5611	Not Controlled Action	Completed
Eagle-1 Exploration Drilling, North West Shelf, WA	2019/8578	Not Controlled Action	Completed
Exploration drilling well WA-155-P(1)	2003/971	Not Controlled Action	Completed
Exploration Well in Permit Area WA-155-P(1)	2002/759	Not Controlled Action	Completed
Exploratory drilling in permit area WA-225-P	2001/490	Not Controlled Action	Completed
HCA05X Macedon Experimental Survey	2004/1926	Not Controlled Action	Completed
Hess Exploration Drilling Programme	2007/3566	Not Controlled Action	Completed
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed
Infill Production Well (Griffin-9)	2001/417	Not Controlled Action	Completed
Klammer 2D Seismic Survey	2002/868	Not Controlled Action	Completed
Montesa-1 and Bultaco-1 Exploration Wells	2000/102	Not Controlled Action	Completed
Spool Base Facility	2001/263	Not Controlled Action	Completed
Subsea Gas Pipeline From Stybarrow Field to Griffin Venture Gas Export Pipeline	2005/2033	Not Controlled Action	Completed
Wanda Offshore Research Project, 80 km north-east of Exmouth, WA	2018/8293	Not Controlled Action	Completed
Not controlled action (particular manner)			
'Kate' 3D marine seismic survey, exploration permits WA-320-P and WA-345-P, 60km	2005/2037	Not Controlled Action (Particular Manner)	Post-Approval
"Leanne" offshore 3D seismic exploration, WA-356-P	2005/1938	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
2D and 3D seismic surveys	2005/2151	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey	2008/4493	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic survey	2008/4281	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey in Permit Areas WA-15-R, WA-18-R, WA-205-P, WA-253-P, WA-267-P and WA-268-P	2003/1271	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Surveys - Contos CT-13 & Supertubes CT-13, offshore WA	2013/6901	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey	2006/2715	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, WA	2008/4428	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey in the Carnarvon Basin on the North West Shelf	2002/778	Not Controlled Action (Particular Manner)	Post-Approval
Acheron Non-Exclusive 2D Seismic Survey	2008/4565	Not Controlled Action (Particular Manner)	Post-Approval
Acheron Non-Exclusive 2D Seismic Survey	2009/4968	Not Controlled Action (Particular Manner)	Post-Approval
Apache Northwest Shelf Van Gogh Field Appraisal Drilling Program	2007/3495	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Aperio 3D Marine Seismic Survey, WA	2012/6648	Not Controlled Action (Particular Manner)	Post-Approval
Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA	2013/7081	Not Controlled Action (Particular Manner)	Post-Approval
CGGVERITAS 2010 2D Seismic Survey	2010/5714	Not Controlled Action (Particular Manner)	Post-Approval
Charon 3D Marine Seismic Survey	2007/3477	Not Controlled Action (Particular Manner)	Post-Approval
Coverack Marine Seismic Survey	2001/399	Not Controlled Action (Particular Manner)	Post-Approval
CVG 3D Marine Seismic Survey	2012/6654	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Drilling Program	2010/5532	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260	Not Controlled Action (Particular Manner)	Post-Approval
Draeck 3D Marine Seismic Survey, WA-205-P	2006/3067	Not Controlled Action (Particular Manner)	Post-Approval
Drilling 35-40 offshore exploration wells in deep water	2008/4461	Not Controlled Action (Particular Manner)	Post-Approval
Eendracht Multi-Client 3D Marine Seismic Survey	2009/4749	Not Controlled Action (Particular Manner)	Post-Approval
Enfield M3 & Vincent 4D Marine Seismic Surveys	2008/3981	Not Controlled Action (Particular Manner)	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Enfield M3 4D, Vincent 4D & 4D Line Test Marine Seismic Surveys	2008/4122	Not Controlled Action (Particular Manner)	Post-Approval
Enfield M4 4D Marine Seismic Survey	2008/4558	Not Controlled Action (Particular Manner)	Post-Approval
Enfield oilfield 3D Seismic Survey	2006/3132	Not Controlled Action (Particular Manner)	Post-Approval
Exmouth West 2D Marine Seismic Survey	2008/4132	Not Controlled Action (Particular Manner)	Post-Approval
Gazelle 3D Marine Seismic Survey in WA-399-P and WA-42-L	2010/5570	Not Controlled Action (Particular Manner)	Post-Approval
Glencoe 3D Marine Seismic Survey WA-390-P	2007/3684	Not Controlled Action (Particular Manner)	Post-Approval
Grimalkin 3D Seismic Survey	2008/4523	Not Controlled Action (Particular Manner)	Post-Approval
Guacamole 2D Marine Seismic Survey	2008/4381	Not Controlled Action (Particular Manner)	Post-Approval
Harmony 3D Marine Seismic Survey	2012/6699	Not Controlled Action (Particular Manner)	Post-Approval
Harpy 1 exploration well	2001/183	Not Controlled Action (Particular Manner)	Post-Approval
Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Huzzas phase 2 marine seismic survey, Exmouth Plateau, Northern Carnarvon Basin, WA	2013/7093	Not Controlled Action (Particular Manner)	Post-Approval
John Ross & Rosella Off Bottom Cable Seismic Exploration Program	2008/3966	Not Controlled Action (Particular Manner)	Post-Approval
Laverda 3D Marine Seismic Survey and Vincent M1 4D Marine Seismic Survey	2010/5415	Not Controlled Action (Particular Manner)	Post-Approval
Leopard 2D marine seismic survey	2005/2290	Not Controlled Action (Particular Manner)	Post-Approval
Macedon Gas Field Development	2008/4605	Not Controlled Action (Particular Manner)	Post-Approval
Marine reconnaissance survey	2008/4466	Not Controlled Action (Particular Manner)	Post-Approval
Moosehead 2D seismic survey within permit WA-192-P	2005/2167	Not Controlled Action (Particular Manner)	Post-Approval
Munmorah 2D seismic survey within permits WA-308/9-P	2003/970	Not Controlled Action (Particular Manner)	Post-Approval
Ocean Bottom Cable Seismic Program, WA-264-P	2007/3844	Not Controlled Action (Particular Manner)	Post-Approval
Ocean Bottom Cable Seismic Survey	2005/2017	Not Controlled Action (Particular Manner)	Post-Approval
Orcus 3D Marine Seismic Survey in WA-450-P	2010/5723	Not Controlled Action (Particular Manner)	Post-Approval
Osprey and Dionysus Marine Seismic Survey	2011/6215	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Palta-1 exploration well in Petroleum Permit Area WA-384-P	2011/5871	Not Controlled Action (Particular Manner)	Post-Approval
Pomodoro 3D Marine Seismic Survey in WA-426-P and WA-427-P	2010/5472	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees 4D Marine Seismic Monitor Survey, HCA12A	2012/6579	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees-Macedon 3D marine seismic survey	2005/2325	Not Controlled Action (Particular Manner)	Post-Approval
Quiberon 2D Seismic Survey, permit area WA-385P, offshore of Carnarvon	2009/5077	Not Controlled Action (Particular Manner)	Post-Approval
Rydal-1 Petroleum Exploration Well, WA	2012/6522	Not Controlled Action (Particular Manner)	Post-Approval
Salsa 3D Marine Seismic Survey	2010/5629	Not Controlled Action (Particular Manner)	Post-Approval
Skorpion Marine Seismic Survey WA	2001/416	Not Controlled Action (Particular Manner)	Post-Approval
Stybarrow 4D Marine Seismic Survey	2011/5810	Not Controlled Action (Particular Manner)	Post-Approval
Stybarrow Baseline 4D marine seismic survey	2008/4530	Not Controlled Action (Particular Manner)	Post-Approval
Tantabiddi Boat Ramp Sand Bypassing	2015/7411	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Tortilla 2D Seismic Survey, WA	2011/6110	Not Controlled Action (Particular Manner)	Post-Approval
Triton 3D Marine Seismic Survey, WA-2-R and WA-3-R	2006/2609	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a three dimensional marine seismic survey	2010/5715	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a three dimensional marine seismic survey	2010/5679	Not Controlled Action (Particular Manner)	Post-Approval
Vincent M1 and Enfield M5 4D Marine Seismic Survey	2010/5720	Not Controlled Action (Particular Manner)	Post-Approval
Warramunga Non-Inclusive 3D Seismic Survey	2008/4553	Not Controlled Action (Particular Manner)	Post-Approval
West Anchor 3D Marine Seismic Survey	2008/4507	Not Controlled Action (Particular Manner)	Post-Approval
West Panaeus 3D seismic survey	2006/3141	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
Bianchi 3D Marine Seismic Survey, Carnavon Basin, WA	2013/7078	Referral Decision	Completed
CVG 3D Marine Seismic Survey	2012/6270	Referral Decision	Completed
Enfield 4D Marine Seismic Surveys, Production Permit WA-28-L	2005/2370	Referral Decision	Completed
Stybarrow Baseline 4D Marine Seismic Survey (Permit Areas WA-255-P, WA-32-L, WA-	2008/4165	Referral Decision	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Referral decision			

Key Ecological Features [[Resource Information](#)]

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

Name	Region
Ancient coastline at 125 m depth contour	North-west
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	North-west
Commonwealth waters adjacent to Ningaloo Reef	North-west
Continental Slope Demersal Fish Communities	North-west
Exmouth Plateau	North-west

Biologically Important Areas

Scientific Name	Behaviour	Presence
Dugong		
Dugong dugon		
Dugong [28]	Breeding	Known to occur
Dugong dugon		
Dugong [28]	Calving	Known to occur
Dugong dugon		
Dugong [28]	Foraging (high density seagrass beds)	Known to occur
Dugong dugon		
Dugong [28]	Nursing	Known to occur

Marine Turtles

Caretta caretta		
Loggerhead Turtle [1763]	Internesting buffer	Known to occur
Caretta caretta		
Loggerhead Turtle [1763]	Nesting	Known to occur
Chelonia mydas		
Green Turtle [1765]	Basking	Known to occur

Scientific Name	Behaviour	Presence
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
Chelonia mydas Green Turtle [1765]	Mating	Known to occur
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Foraging	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Mating	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Known to occur
Natator depressus Flatback Turtle [59257]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting buffer	Known to occur
Natator depressus Flatback Turtle [59257]	Mating	Known to occur
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur
Seabirds		
Ardena pacifica Wedge-tailed Shearwater [84292]	Breeding	Known to occur

Scientific Name	Behaviour	Presence
Sterna dougallii Roseate Tern [817]	Breeding	Known to occur
Sternula nereis Fairy Tern [82949]	Breeding	Known to occur
Thalasseus bengalensis Lesser Crested Tern [66546]	Breeding	Known to occur
Sharks		
Rhincodon typus Whale Shark [66680]	Foraging	Known to occur
Rhincodon typus Whale Shark [66680]	Foraging (high density prey)	Known to occur
Whales		
Balaenoptera musculus brevipinna Pygmy Blue Whale [81317]	Distribution	Known to occur
Balaenoptera musculus brevipinna Pygmy Blue Whale [81317]	Foraging	Known to occur
Balaenoptera musculus brevipinna Pygmy Blue Whale [81317]	Migration	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration (north and south)	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Resting	Known to occur

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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

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APPENDIX D DEPARTMENT OF PLANNING LAND, HERITAGE AND ABORIGINAL ENQUIRY SYSTEM RESULTS

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List of Aboriginal Cultural Heritage (ACH) Directory

Search Criteria

2 Aboriginal Cultural Heritage (ACH) Directory in Shapefile - Consultation_EMBA_Entrained_100ppb, Accumulated_Shoreline_10gm2_pt1, Accumulated_Shoreline_10gm2_pt2

Disclaimer

The *Aboriginal Cultural Heritage Act 2021 (Act)* recognises, protects, conserves, and preserves Aboriginal cultural heritage (ACH), and recognises the fundamental importance of ACH to Aboriginal people and its role in Aboriginal communities past, present and future. The Act recognises the value of ACH to Aboriginal people as well as to the wider Western Australian community.

Aboriginal cultural heritage in Western Australia is protected, whether or not the ACH has been reported to the ACH Council or exists on the Directory.

The information provided is made available in good faith and is predominately based on the information provided to the Department of Planning, Lands and Heritage by third parties. The information is provided solely on the basis that readers will be responsible for making their own assessment as to the accuracy of the information. If you find any errors or omissions in our records, including our maps, it would be appreciated if you email the details to the Department at AboriginalHeritage@dplh.wa.gov.au and we will make every effort to rectify it as soon as possible.

Copyright

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List of Aboriginal Cultural Heritage (ACH) Directory

Terminology

ID: Reported ACH is assigned a unique ID by the Department of Planning, Lands and Heritage using the format: ACH-00000001. For ACH places on the former Register the ID numbers remain unchanged and use the new format. For example the ACH ID of the place Swan River was previously '3536' and is now 'ACH-00003536'.

Access and Restrictions:

- **Boundary Reliable (Yes/No):** Indicates whether the location and extent of the ACH boundary is considered reliable.
- **Boundary Restricted = No:** ACH location is shown as accurately as the information submitted allows.
- **Boundary Restricted = Yes:** To preserve confidentiality the exact location and extent of the place is not displayed on the map. However, the shaded region (generally with an area of at least 4km²) provides a general indication of where the ACH is located. If you are a landowner and wish to find out more about the exact location of the place, please contact the Department of Planning, Lands and Heritage.
- **Culturally Sensitive = No:** Availability of information that the Department of Planning, Lands and Heritage holds in relation to the ACH is not restricted in any way.
- **Culturally Sensitive = Yes:** Some of the information that the Department of Planning, Lands and Heritage holds in relation to the ACH is restricted if it is considered culturally sensitive information. This information will only be made available if the Department of Planning, Lands and Heritage receives written approval from the people who provided the information. To request access please contact AboriginalHeritage@dplh.wa.gov.au.
- **Culturally Sensitive Nature:**
 - **No Gender / Initiation Restrictions:** *Anyone* can view the information.
 - **Men only:** Only *males* can view restricted information.
 - **Women only:** Only *females* can view restricted information.

Status:

- **ACH Directory:** Aboriginal cultural heritage place or cultural landscape.
- **Pending:** Aboriginal cultural heritage place or cultural landscape with information in a verification stage.
- **Historic:** Aboriginal heritage places determined to not meet the criteria of Section 5 of the Aboriginal Heritage Act 1972. Includes places that no longer exist as a result of land use activities with existing approvals.

ACH Type:

- **Cultural Landscape:** a group of areas interconnected through the tangible elements of Aboriginal culture heritage present.
- **Place:** an area in which tangible elements of Aboriginal cultural heritage are present.

Place Type: The type of Aboriginal cultural heritage place. For example an artefact scatter place or engravings place.

Legacy Place Status: A status determined under the previous *Aboriginal Heritage Act 1972*:

- **Registered Site:** the place was assessed as meeting Section 5 of the *Aboriginal Heritage Act 1972*.
- **Lodged:** Information was received in relation to the place, but an assessment was not completed to determine if it met section 5 of the *Aboriginal Heritage Act 1972*.
- **Stored Data/Not a Site:** The place was assessed as not meeting Section 5 of the *Aboriginal Heritage Act 1972*.

Legacy ID: This is the former unique number that the former Department of Aboriginal Sites assigned to the place.

Coordinates

Map coordinates are based on the GDA 94 Datum.

Basemap Copyright

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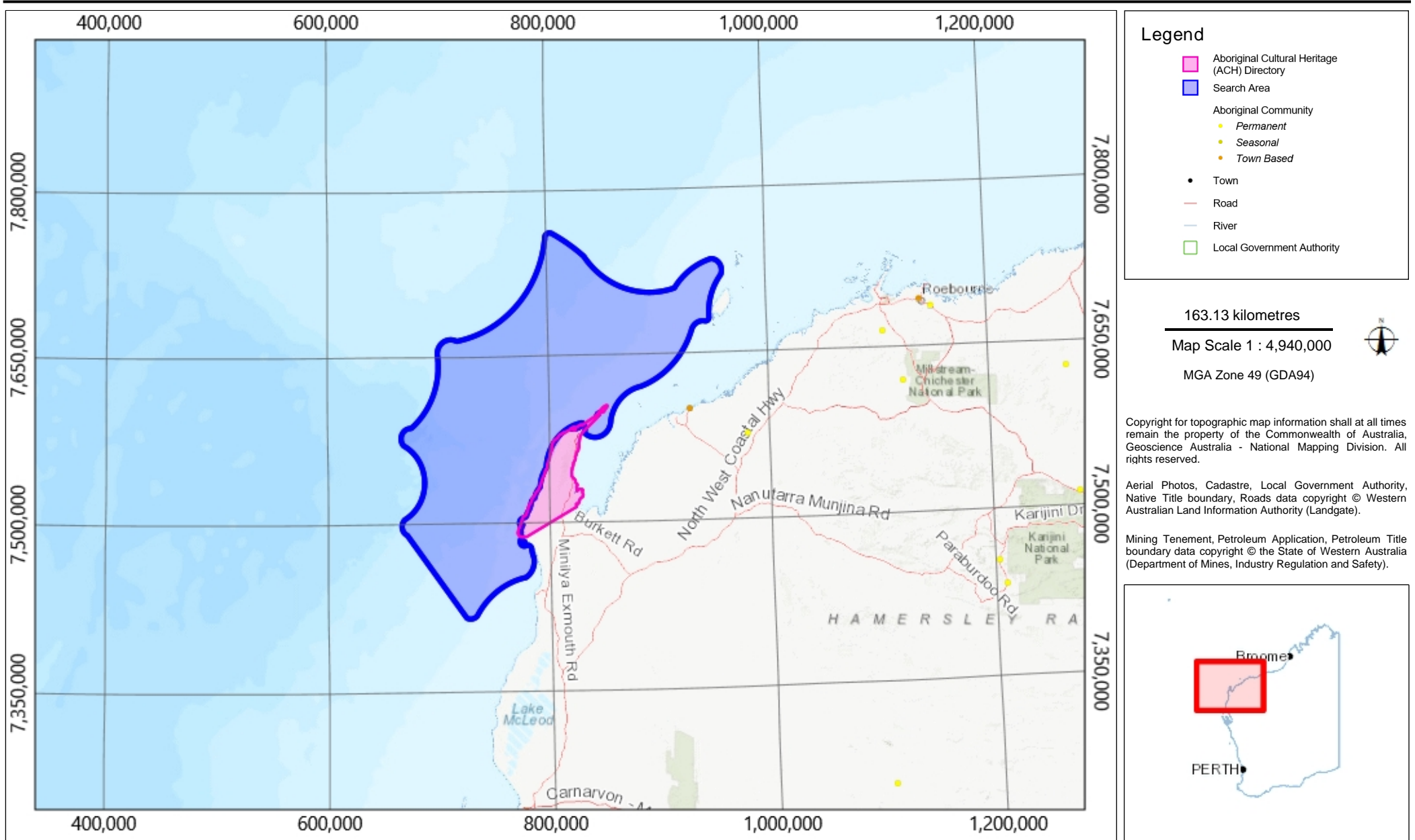
Aboriginal Cultural Heritage Inquiry System

List of Aboriginal Cultural Heritage (ACH) Directory

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	ACH Type	Place Type	Knowledge Holders	Legacy Place Status	Legacy ID
10381	VLAMING HEAD	Yes	No	Yes	No Gender / Initiation Restrictions	ACH Directory	Place	Ritual / Ceremonial; Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	Registered Site	P01799
39191	Warnangura (Cape Range) Cultural Precinct	No	Yes	Yes	No Gender / Initiation Restrictions	ACH Directory	Place	Artefacts / Scatter; Ritual / Ceremonial; Creation / Dreaming Narrative; Engraving; Midden; Rock Shelter; Water Source	*Registered Knowledge Holder names available from DPLH	Lodged	

Aboriginal Cultural Heritage Inquiry System

Map of Aboriginal Cultural Heritage (ACH) Directory



APPENDIX E NOPSEMA REPORT FORM

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NOPSEMA Recordable Environmental Incident monthly Reporting Form

<https://www.nopsema.gov.au/assets/Forms/A198750.doc>

Report of an accident, dangerous occurrence or environmental incident

<https://www.nopsema.gov.au/assets/Forms/N-03000-FM0831-Report-of-an-Accident-Dangerous-Occurrence-or-Environmental-Incident-Rev-8-Jan-2015-MS-Word-2010.docx>

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APPENDIX F CONSULTATION

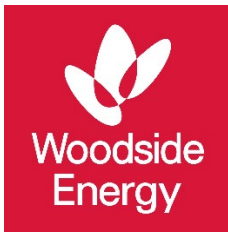
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Appendix F

Macedon Operations Commonwealth Environment Plan

- **Table 1: Assessment of Relevance**
- **Consultation Activities**
- **Table 2: Consultation Report with Relevant Persons or Organisations**
- **Table 3: Engagement Report with Persons or Organisations Assessed as Not Relevant**
- **Record of Consultation**

Date: February 2024

Revision: 0

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RELEVANCY ASSESSMENT

Assessment of Relevant Persons for the Proposed Activity

The result of Woodside’s assessment of relevant persons in accordance with regulation 25(1) of the Environment Regulations is outlined below at **Table 1** and **Table 2**.

Persons or organisations that Woodside assessed as not relevant but nonetheless chose to contact at its discretion in accordance with **Section 5.3.4** or self-identified and Woodside assessed as not relevant are summarised below at **Table 1** and **Table 3**.

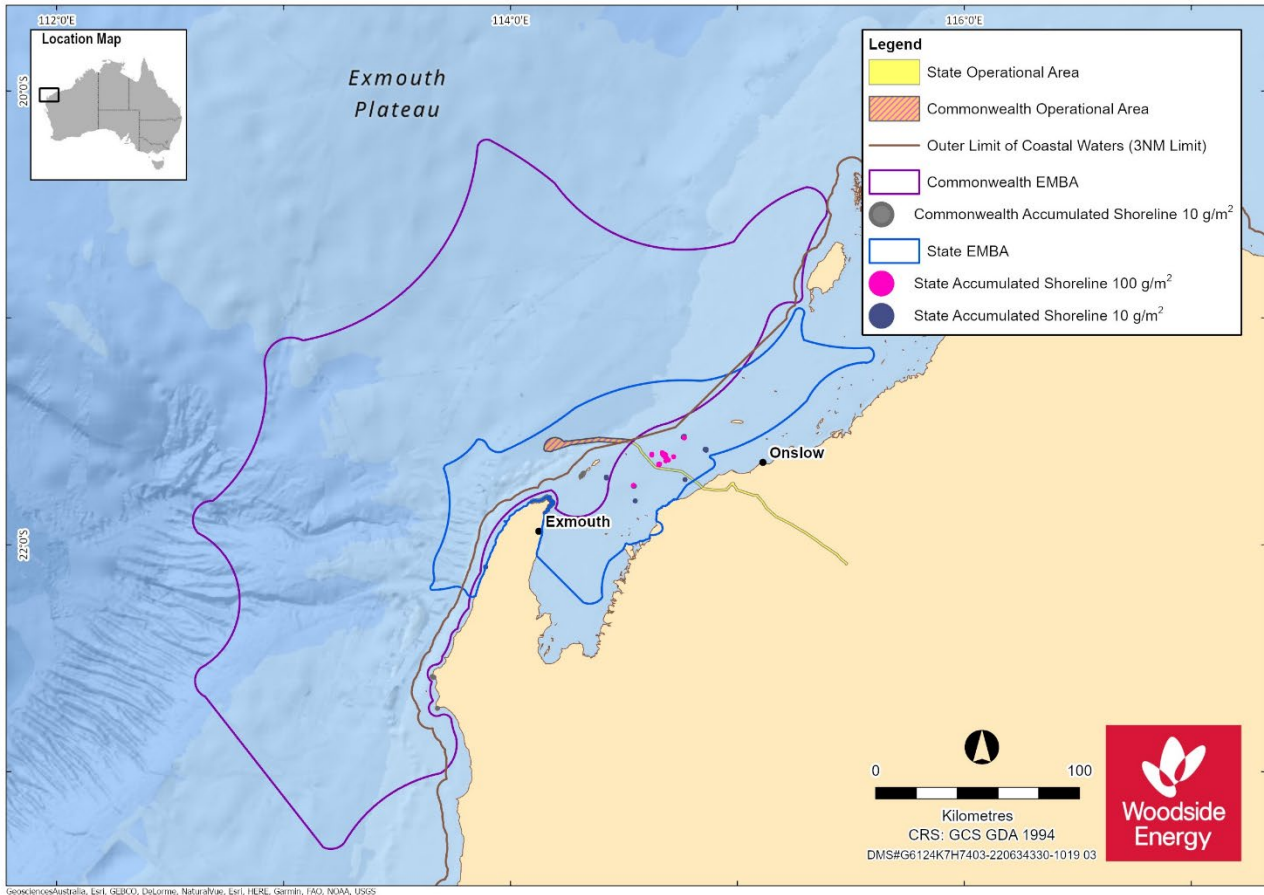


Figure 1: Operational Area and EMBA for this EP.

Table 1: Assessment of relevance

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Commonwealth and WA State Government Departments or Agencies – Marine			
Australian Border Force (ABF)	Responsible for coordinating maritime security	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. ABF's responsibilities may be relevant to the activity as there are proposed vessel activities.	Yes
Australian Fisheries Management Authority (AFMA)	Responsible for managing Commonwealth fisheries	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. No Commonwealth fisheries are active in the Operational Area. The Western Deepwater Trawl Fishery and North West Slope and Trawl Fishery are active in the EMBA. AFMA's responsibilities may be relevant to the activity as the Western Deepwater Trawl Fishery and North West Slope and Trawl Fishery are active in the EMBA.	Yes
Australian Hydrographic Office (AHO)	Responsible for maritime safety and Notices to Mariners	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. AHO's responsibilities may be relevant to the activity as there are proposed vessel activities.	Yes
Australian Maritime Safety Authority (AMSA) – Marine Safety	Statutory agency for vessel safety and navigation	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. AMSA – Marine Safety's responsibilities may be relevant to the activity as there are proposed vessel activities.	Yes
Australian Maritime Safety Authority (AMSA) – Marine Pollution	Legislated responsibility for oil pollution response in Commonwealth waters	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. AMSA – Marine Pollution's responsibilities may be relevant to the activity as the proposed activity has a hydrocarbon spill risk which may require AMSA response in Commonwealth waters.	Yes

<p>Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries</p>	<p>Responsible for implementing Commonwealth policies and programs to support agriculture, fishery, food and forestry industries</p>	<p>Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations.</p> <p>No Commonwealth fisheries are active in the Operational Area. The Western Deepwater Trawl Fishery and North West Slope and Trawl Fishery are active in the EMBA.</p> <p>DAFF - Fisheries responsibilities may be relevant to the activity as the Western Deepwater Trawl Fishery and North West Slope and Trawl Fishery are active in the EMBA.</p>	<p>Yes</p>
<p>Department of Defence (DoD)</p>	<p>Responsible for defending Australia and its national interests.</p>	<p>Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations.</p> <p>DoD's responsibilities may be relevant to the activity as defence training areas lie within the EMBA.</p>	<p>Yes</p>
<p>Department of Primary Industries and Regional Development (DPIRD)</p>	<p>Responsible for managing State fisheries</p>	<p>Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations.</p> <p>The Mackerel Managed Fishery (Area 2), Marine Aquarium Managed Fishery and Specimen Shell Managed Fishery have been active in the Operational Area within the last 5 years. The Pilbara Trap Fishery, West Coast Deep Sea Crustacean Managed Fishery and Pilbara Line Fishery have been active in close proximity to the Operational Area.</p> <p>The Exmouth Gulf Prawn Managed Fishery, Gascoyne Demersal Scalefish Fishery, Mackerel Managed Fishery (Area 2 and 3), Marine Aquarium Managed Fishery, Onslow Prawn Managed Fishery, Pilbara Trap Fishery, Specimen Shell Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery and Western Australian Sea Cucumber Fishery have been active in the EMBA within the last 5 years.</p> <p>DPIRD's responsibilities may be relevant to the activity as the government department responsible for State fisheries.</p>	<p>Yes</p>
<p>Department of Transport (DoT)</p>	<p>Legislated responsibility for oil pollution response in State waters</p>	<p>Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations.</p> <p>The proposed activity has a hydrocarbon spill risk, which may require DoT response in State waters.</p>	<p>Yes</p>

<p>Department of Planning, Lands and Heritage (DPLH)</p>	<p>Responsible for state level land use planning and management, and oversight of Aboriginal cultural heritage and built heritage matters.</p>	<p>Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. There is known Maritime Cultural Heritage overlapping the EMBA.</p>	<p>Yes</p>
<p>Pilbara Ports Authority</p>	<p>Responsible for the operation of the Port of Dampier.</p>	<p>Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. The proposed activity does not have the potential to impact Pilbara Ports Authority's responsibilities as the EMBA does not overlap the Pilbara Ports Authority's area of responsibility.</p>	<p>No</p>
<p>Commonwealth and WA State Government Departments or Agencies – Environment</p>			
<p>Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (marine pests, vessels, aircraft and personnel)</p>	<p>DAFF administers, implements and enforces the Biosecurity Act 2015. The Department requests to be consulted where an activity has the potential to transfer marine pests.</p> <p>DAFF also has inspection and reporting requirements to ensure that all conveyances (vessels, installations and aircraft) arriving in Australian territory comply with international health Regulations and that any biosecurity risk is managed.</p> <p>The Department requests to be consulted where an activity involves the movement of aircraft or vessels between Australia and offshore petroleum activities either inside or outside Australian territory.</p>	<p>Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations.</p> <p>DAFF – Biosecurity's (formerly DAWE) responsibilities may be relevant to the proposed activities in the EMBA in the prevention of introduced marine species.</p>	<p>Yes</p>

<p>Department of Climate Change, Energy, the Environment and Water (DCCEEW)</p>	<p>Responsible for implementing Commonwealth policies and programs to support climate change, sustainable energy use, water resources, the environment and our heritage.</p> <p>Administers the Underwater Cultural Heritage Act 2018 in collaboration with the States, Northern Territory and Norfolk Island, which is responsible for the protection of shipwrecks, sunken aircraft and other types of underwater heritage and their associated artefacts in Commonwealth waters.</p>	<p>Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations.</p> <p>DCCEEW's (formerly DAWE) responsibilities may be relevant to the proposed activities in the EMBA as there are potential environmental impacts from the proposed activity.</p> <p>There is known Maritime Cultural Heritage overlapping the EMBA.</p>	<p>Yes</p>
<p>Director of National Parks (DNP)</p>	<p>Responsible for the management of Commonwealth parks and conservation zones.</p>	<p>Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations.</p> <p>DNP's responsibilities may be relevant to the activity as DNP requires an awareness of activities that occur within AMPs, and an understanding of potential impacts and risks to the values of parks (NOPSEMA guidance note: N-04750-GN1785 A620236, June 2020). Titleholders are required to consult DNP on offshore petroleum and greenhouse gas exploration activities if they occur in, or may impact on the values of marine parks, including where potential spill response activities may occur in the event of a spill (i.e. scientific monitoring).</p>	<p>Yes</p>
<p>Ningaloo Coast World Heritage Advisory Committee (NCWHAC)</p>	<p>Supports the DBCA to manage the Ningaloo Coast World Heritage Area.</p>	<p>Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations.</p> <p>The NCWHAC's responsibilities may be relevant to the activity as the EMBA overlaps the Ningaloo Marine Park.</p>	<p>Yes</p>
<p>Department of Biodiversity, Conservation and Attractions (DBCA)</p>	<p>Responsible for managing WA's parks, forests and reserves to achieve wildlife conservation and provide sustainable recreation and tourism opportunities.</p>	<p>Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(b) of the Environment Regulations.</p> <p>The DBCA's responsibilities may be relevant to the activity as EMBA overlaps WA parks, forests or reserves.</p> <p>Activities have the potential to impact marine tourism in the EMBA.</p>	<p>Yes</p>

Commonwealth and State Government Departments or Agencies – Industry			
Department of Industry, Science and Resources (DISR)	Department of relevant Commonwealth Minister.	Required to be consulted under regulation 25(1)(a) of the Environment Regulations.	Yes
Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) (formerly DMIRS)	Department of relevant State Minister	Required to be consulted under regulation 25(1)(c) of the Environment Regulations.	Yes
Commonwealth Commercial fisheries and representative bodies			

North West Slope and Trawl Fishery	Commonwealth commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The fishery does not overlap the Operational Area. The fishery overlaps EMBA and has been active in the EMBA within the last 5 years.</p>	Yes
Southern Bluefin Tuna Fishery	Commonwealth commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Although the fishery overlaps the Operational Area and EMBA, it has not been active in the Operational Area or EMBA within the last 5 years.</p> <p>Woodside does not consider that the proposed activity will present a risk to licence holders, given since 1992, the majority of Australian catch has concentrated in south-eastern Australia. (Patterson et al., 2022). In addition, given fishing methods by licence holders for species fished in this fishery (Australia has a 35% share of total global allowable catch of Southern Bluefin Tuna, which is value-added through tuna ranching near Port Lincoln (South Australia), or fishing effort in New South Wales (Australian Southern Bluefin Tuna Industry Association).</p>	No
Western Deepwater Trawl Fishery	Commonwealth commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The fishery does not overlap the Operational Area. The fishery overlaps EMBA and has been active in the EMBA within the last 5 years.</p>	Yes
Western Skipjack Fishery	Commonwealth commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Although the fishery overlaps the Operational Area and EMBA, it has not been active in the Operational Area or EMBA within the last 5 years.</p> <p>Woodside does not consider that the activity will present a risk to licence holders, given the fishery spans the Australian Fishing Zone west of Victoria and the Torres Strait. The Fishery is not currently active and no fishing has occurred since 2009 (Patterson et al., 2022). In addition, interactions are not expected given the species' pelagic distribution fishing methods for species fished by licence holders.</p>	No

Western Tuna and Billfish Fishery	Commonwealth commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Although the fishery overlaps the Operational Area and EMBA, it has not been active in the Operational Area or EMBA within the last 5 years.</p>	No
Commonwealth Fisheries Association (CFA)	Represents the interests of commercial fishers with licences in Commonwealth waters	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>No Commonwealth fisheries are active in the Operational Area. The Western Deepwater Trawl Fishery and North West Slope and Trawl Fishery are active in the EMBA.</p> <p>CFA's functions may be relevant to the activity as Western Deepwater Trawl Fishery and North West Slope and Trawl Fishery are active in the EMBA.</p>	Yes
Australian Southern Bluefin Tuna Industry Association (ASBTIA)	Represents the interests of the Southern Bluefin Tuna Fishery and Western Skipjack Fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The Southern Bluefin Tuna Fishery has been assessed as not relevant to the proposed activity. As the peak representative body for the Southern Bluefin Tuna Fishery, the ASBTIA has also been assessed as not relevant.</p> <p>Woodside has provided information to the ASBTIA at its discretion on AFMA advice that it expects all Commonwealth fishers who have entitlements to fish within the proposed area to be consulted, which can be through the relevant fishing industry associations.</p>	No
Tuna Australia	Represents the interests of the Western Tuna and Billfish Fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The Western Tuna and Billfish Fishery has been assessed as not relevant to the proposed activity. As the peak representative body for the Western Tuna and Billfish Fishery, Tuna Australia has also been assessed as not relevant.</p> <p>Woodside has provided information to Tuna Australia at its discretion on AFMA advice that it expects all Commonwealth fishers who have entitlements to fish within the proposed area to be consulted, which can be through the relevant fishing industry associations.</p>	No

<p>Pearl Producers Association (PPA)</p>	<p>Peak representative organisation of The Australian South Sea Pearling Industry, with members in Western Australia and the Northern Territory</p>	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The Pearl Oyster Managed Fishery has been assessed as not relevant to the proposed activity.</p> <p>As the peak representative body for the Pearl Oyster Managed Fishery, the PPA has also been assessed as not relevant.</p>	<p>No</p>
<p>State Commercial fisheries and representative bodies</p>			
<p>Marine Aquarium Managed Fishery</p>	<p>State commercial fishery</p>	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The fishery overlaps the Operational Area and EMBA and has been active in the Operational Area and EMBA within the last 5 years.</p>	<p>Yes</p>
<p>South West Coast Salmon Managed Fishery</p>	<p>State commercial fishery</p>	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area or EMBA within the last 5 years.</p> <p>Woodside does not consider that the activity will present a risk to licence holders, given fishers are active south of Perth and from the beach (previous WAFIC advice). Further, no fishing occurs north of the Perth Metropolitan Area and therefore, no effort occurs within the Operational Area or EMBA.</p>	<p>No</p>

<p>Mackerel Managed Fishery 2 and 3)</p>	<p>State commercial fishery</p>	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Area 2 of the fishery overlaps the Operational Area and has been active in the Operational Area within the last 5 years.</p> <p>Area 2 and 3 of the fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.</p>	<p>Yes</p>
<p>Pilbara Crab Managed Fishery</p>	<p>State commercial fishery</p>	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area or EMBA within the last 5 years.</p> <p>Woodside does not consider that the activity will present a risk to licence holders, given the target species is blue swimmer crab generally at less than 50 m water depth.</p>	<p>No</p>
<p>West Coast Deep Sea Crustacean Managed Fishery</p>	<p>State commercial fishery</p>	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Although the fishery overlaps the Operational Area it has been active in the Operational Area within the last 5 years. However, Woodside notes the fishery has been active in close proximity to the Operational Area.</p> <p>The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.</p>	<p>Yes</p>
<p>Specimen Shell Managed Fishery</p>	<p>State commercial fishery</p>	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The fishery overlaps the Operational Area and EMBA and has been active in the Operational Area and EMBA within the last 5 years.</p>	<p>Yes</p>

Abalone Managed Fishery	State commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area or EMBA within the last 5 years.</p> <p>Woodside does not consider there to be a potential for interaction with the fishery, given it is a dive and wade fishery with distribution to 5 m depth for Roe's abalone and 40 m depth for greenlip / brownlip abalone (DOF, 2011).</p>	No
Pearl Oyster Managed Fishery	State commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area or EMBA within the last 5 years.</p> <p>Woodside does not consider there to be a potential for interaction with the fishery, given fishing methods and location for species fished by licence holders (fishing effort is mostly focussed in shallow coastal waters of 10-15 m depth, with a maximum depth of 35 m) (Lulofs et al. 2002).</p>	No
Land Hermit Crab Fishery	State commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The fishery does not overlap the Operational Area. Although the fishery overlaps the EMBA, it has not been active in the EMBA within the last 5 years.</p> <p>Woodside does not consider there to be a potential for interaction with the fishery, as this is a land based fishery in Western Australia.</p>	No
Onslow Prawn Managed Fishery	State commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.</p>	Yes

Western Australian Sea Cucumber Fishery	State commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.</p>	Yes
Exmouth Gulf Prawn Managed Fishery	State commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.</p>	Yes
Gascoyne Demersal Scalefish Fishery	State commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.</p>	Yes
West Coast Rock Lobster Fishery	State commercial fishery	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The fishery does not overlap the Operational Area. Although the fishery overlaps the EMBA, it has not been active in the EMBA within the last 5 years.</p> <p>Woodside does not consider there to be a potential for interaction with this fishery as the fishery targets the western rock lobster (<i>panulirus cygnus</i>), colloquially known as crayfish, on Western Australia's coast between Shark Bay and Cape Leeuwin.</p>	No

Demersal Scalefish Fishery: Pilbara Trawl Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area and EMBA, it has not been active in the Operational Area or EMBA within the last 5 years.	No
Pilbara Trap Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area it has been active in the Operational Area within the last 5 years. However, Woodside notes the fishery has been active in close proximity to the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.	Yes
Pilbara Line Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area it has been active in the Operational Area within the last 5 years. However, Woodside notes the fishery has been active in close proximity to the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.	Yes

<p>Western Australian Fishing Industry Council (WAFIC)</p>	<p>Represents the interests of commercial fishers with licences in State waters.</p>	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The Mackerel Managed Fishery (Area 2), Marine Aquarium Managed Fishery and Specimen Shell Managed Fishery have been active in the Operational Area within the last 5 years. The Pilbara Trap Fishery, West Coast Deep Sea Crustacean Managed Fishery and Pilbara Line Fishery have been active in close proximity to the Operational Area.</p> <p>The Exmouth Gulf Prawn Managed Fishery, Gascoyne Demersal Scalefish Fishery, Mackerel Managed Fishery (Area 2 and 3), Marine Aquarium Managed Fishery, Onslow Prawn Managed Fishery, Pilbara Trap Fishery, Specimen Shell Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery and Western Australian Sea Cucumber Fishery have been active in the EMBA within the last 5 years.</p> <p>WAFIC's functions may be relevant to the activity as the peak representative body for State fisheries.</p> <p>Woodside acknowledges WAFIC's consultation guidance¹ and has applied this by consulting fisheries that are assessed as having a potential for interaction in the Operational Area directly and consulting fisheries assessed as having a potential for interaction in the EMBA via WAFIC.</p>	<p>Yes</p>
<p>Recreational marine users and representative bodies</p>			

<p>Exmouth Recreational Marine Users</p>	<p>Exmouth-based dive, tourism and charter operators</p>	<p>Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Andro Maritime Services Australia, Aquatic Adventure Exmouth, Birds Eye View, Blue Horizon Charters, Blue Lightning Charters, Cape Immersion Tours, Coastal Adventure Tours, Coral Bay Ecotours, Cruise Ningaloo, Dampier Island Tourism, Dive Ningaloo, Evolution Fishing Charters, Exmouth Adventure Co., Exmouth Dive Centre, Exmouth Fly Fishing, Exmouth Game Fishing Club, Indian Chief Charters, Innkeeper Sport Fishing Charter, Kings Ningaloo Reef Tours, Live Ningaloo, Mahi Fishing Charters, Montebello Island Safaris, Ningaloo Aviation, Ningaloo Blue, Ningaloo Coral Bay Boats, Ningaloo Discovery, Ningaloo Ecology Cruises, Ningaloo Fly Fishing, Ningaloo Marine Interaction, Ningaloo Reef Dive, Ningaloo Reef to Range Tours, Ningaloo Safari Tours, Ningaloo Sportfishing Charters, Ningaloo Whaleshark n Dive, Ningaloo Whaleshark Swim, Ocean Eco Adventures, On Strike Charters, Peak Sportfishing Charters, Pelican Charters, Sail Ningaloo, Sea Force Charters, Set the Hook, The Mobile Observatory, Three Islands, Top Gun Charters, Ultimate WaterSports, Venture Ningaloo, View Ningaloo, Warrior Princess Charters, Yardi Creek Boat Tours.</p> <p>Activities have the potential to impact Exmouth-based dive, tourism and charter operator's functions, interests or activities due to the location of activities and there has been recorded charter effort in the EMBA in the past 5 years.</p>	<p>Yes</p>
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<p>Gascoyne Recreational Marine Users</p>	<p>Gascoyne-based dive, tourism and charter operators</p>	<p>Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Silverado Charters Pty Ltd, Reel Force Charters Pty Ltd, D & N Nominees Pty Ltd, Lyons Family Super Pty Ltd, Seafresh Holdings Pty Ltd, Eco-Abrolhos Pty Ltd, C Emery Fishing Pty Ltd, On Strike Charters (WA) Pty Ltd, Melkit Pty Ltd, Maritime Engineering Services Pty Ltd, G. C. Bass Nominees Pty Ltd, Breffen Nominees Pty Ltd, W.A Maritime Investments Pty Ltd, Blue Juice Tours Pty Ltd, Surefire Marine Services Pty Ltd, Makalee Pty Ltd, L & S Family Holdings Pty Ltd, Bondall Pty Ltd, Kw Marine Pty Ltd, Sharkbay Charters Pty Ltd, Bluecity Enterprises Pty Ltd, Jostan Holdings Pty Ltd, Monkey Mia Yacht Charters Pty Ltd, On Strike Charters (Wa) Pty Ltd, Rainfield Pty Ltd, Monster Sportfishing Adventures Pty Ltd, Lulamanzi Investments Pty Ltd, Millennial Charters Pty Ltd, Chapel Nominees Pty Ltd, Regalchoice Holdings Pty Ltd, Fawesome Expeditions Pty Ltd, On Strike Charters (Wa) Pty Ltd, The Great Escape Charter Company Pty Ltd, Aoa International Pty Ltd, Fire Tiger Pty Ltd.</p> <p>Activities have the potential to impact Gascoyne-based dive, tourism and charter operator's functions, interests or activities due to the location of activities and there has been recorded charter effort in the EMBA in the past 5 years.</p>	<p>Yes</p>
<p>Recfishwest</p>	<p>Represents the interests of recreational fishers in WA.</p>	<p>Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Activities have the potential to impact recreational fishers' functions, interests or activities due to the location offshore and there has been recorded charter effort in the EMBA in the past 5 years.</p>	<p>Yes</p>
<p>Marine Tourism WA</p>	<p>Represents the interests of marine tourism in WA.</p>	<p>Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Activities have the potential to impact recreational fishers' functions, interests or activities due to the location offshore and there has been recorded charter effort in the EMBA in the past 5 years.</p>	<p>Yes</p>

WA Game Fishing Association	Represents the interests of game fishers in WA.	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Activities have the potential to impact game fishers' functions, interests or activities due to the location offshore and there has been recorded charter effort in the EMBA in the past 5 years.	Yes
Titleholders and Operators			
Chevron Australia	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Western Gas	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Exxon Mobil Australia Resources Company	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Shell Australia	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Carnarvon Energy	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Osaka Gas Gorgon	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Tokyo Gas Gorgon	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes

JERA Gorgon	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Eni Australia	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
KUFPEC	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Santos WA Northwest / Santos Offshore / Santos WA Southwest / Santos (BOL) / Santos WA PVG	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
OMV Australia	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
KATO Energy / KATO Corowa	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
INPEX Alpha	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Peak Industry Representative bodies			
Australian Energy Producers (AEP)	Represents the interests of oil and gas explorers and producers in Australia.	Woodside has applied its methodology for 'Peak Industry Representative bodies' under regulation 25(1)(d) of the Environment Regulations. APPEA's responsibilities are identified as having an intersect with Woodside's planned activities in the EMBA.	Yes
Traditional Custodians and nominated representative corporations			

<p>Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)</p>	<p>Representative Aboriginal Corporation</p>	<p>Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The Gnulli, Gnulli #2 and Gnulli #3 - Yinggarda, Baiyungu and Thalanyji People native title claim overlaps the EMBA, which the Baiyungu, Thalanyji and Yinggarda people are party to. The NTGAC and Yinggarda Aboriginal Corporation (YAC) are the Registered Native Title Body Corporates holding native title on behalf of the Baiyungu, Thalanyji and Yinggarda people.</p> <p>The NTGAC is also party, with the WA State Government, to the Ningaloo Conservation Estate Indigenous Land Use Agreement (the ILUA), which overlaps the EMBA. The NTGAC is responsible for the joint management of the inner Ningaloo Marine Park (State Waters), the Cape Range National Park and new conservation areas extending along the Ningaloo Coast, which runs in parallel to the outer Ningaloo Marine Park in Commonwealth waters.</p> <p>The NTGAC's nominated representative is the Yamatji Marlpa Aboriginal Corporation (YMAC) and the NTGAC executive officer and contact officer pursuant to the Corporations (Aboriginal and Torres Strait Islander) Act 2006 is employed by YMAC. Woodside has therefore consulted the NTGAC, via YMAC.</p>	<p>Yes</p>
<p>Buurabalayji Thalanyji Aboriginal Corporation (BTAC)</p>	<p>Representative Aboriginal Corporation</p>	<p>Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The Thalanyji native title claim does not overlap the EMBA. The claim is coastally adjacent to the EMBA, for which BTAC is the Registered Native Title Body Corporate.</p> <p>BTAC is also party to the Macedon ILUA which is coastally adjacent to the EMBA.</p>	<p>Yes</p>

<p>Yinggarda Aboriginal Corporation (YAC)</p>	<p>Representative Aboriginal Corporation</p>	<p>Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The Gnulli, Gnulli #2 and Gnulli #3 - Yinggarda, Baiyungu and Thalanyji People native title claim overlaps the EMBA, which the Baiyungu, Thalanyji and Yinggarda people are party to. The NTGAC and Yinggarda Aboriginal Corporation (YAC) are the Registered Native Title Body Corporates holding native title on behalf of the Baiyungu, Thalanyji and Yinggarda people.</p> <p>The Yinggarda Aboriginal Corporations nominated representative is Gumala Aboriginal Corporation.</p>	<p>Yes</p>
<p>Wirrawandi Aboriginal Corporation (WAC)</p>	<p>Representative Aboriginal Corporation</p>	<p>Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The Yaburara & Mardudhunera People native title claim does not overlap the EMBA. The claim is coastally adjacent to the EMBA, for which WAC is the Registered Native Title Body Corporate.</p> <p>WAC is party to the KM & YM Indigenous Land Use Agreement 2018, which is coastally adjacent to the EMBA.</p>	<p>Yes</p>
<p>Robe River Kuruma Aboriginal Corporation</p>	<p>Representative Aboriginal Corporation</p>	<p>Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>The Robe River Kuruma Aboriginal Corporation is party to the KM & YM Indigenous Land Use Agreement 2018 and RTIO Kuruma Marthudunera People ILUA, which are coastally adjacent to the EMBA.</p>	<p>Yes</p>
<p>Native Title Representative Bodies</p>			

<p>Yamatji Marlpa Aboriginal Corporation (YMAC)</p>	<p>Native Title Representative Body</p>	<p>Woodside has applied its methodology for 'Native Title Representative Bodies' under regulation 25(1)(d) of the Environment Regulations.</p> <p>YMAC is the Native Title Representative Body for the Yamatji and Pilbara regions of Western Australia. As such, they are not a Prescribed or Registered Native Title Body Corporate but exist to assist native title claimants and holders.</p> <p>The NTGAC's nominated representative is YMAC. Woodside has therefore consulted the NTGAC via YMAC.</p> <p>YMAC was also the nominated representative for YAC. Woodside was advised that as of late April 2023, the nominated representative for YAC is now Gumala Aboriginal Corporation.</p> <p>Woodside contacted YMAC to seek guidance with respect to the appropriate Traditional Custodian group(s) to engage with respect to the proposed activity where this was not clear.</p> <p>YMAC's functions may be relevant to the proposed activity in relation to its facilitation and coordination function as a Native Title Representative Body under applicable federal legislation.</p>	<p>Yes</p>
<p>Historical cultural heritage groups or organisations</p>			
<p>Western Australian Museum</p>	<p>Manages 200 shipwreck sites of the 1,500 known to be located off the Western Australian coast.</p>	<p>Woodside has applied its methodology for 'Historical cultural heritage groups or organisations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>There is known shipwrecks overlapping the EMBA which the Western Australian Museum may be responsible for.</p>	<p>Yes</p>
<p>Local government and community representative groups or organisations</p>			

Shire of Exmouth	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Exmouth, Learmonth and North West Cape.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Exmouth's area of responsibility overlaps the EMBA.	Yes
Shire of Ashburton	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Onslow, Pannawonica, Paraburdoo and Tom Price.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Ashburton's area of responsibility overlaps the EMBA.	Yes
Shire of Carnarvon	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Babbage Island, Brockman, Browns Range, Carnarvon, Coral Bay, East Carnarvon, Greys Plain, Ingaarda, Kingsford, Morgantown, North Plantations, South Carnarvon, South Plantations.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Carnarvon's area of responsibility overlaps the EMBA.	Yes
Exmouth Community Liaison Group (CLG)	The Exmouth CLG represents the interests of a range of local government, industry and community organisations in relation to oil and gas matters in the Exmouth region.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Base Marine, Bgahwan Marine, Cape Conservation Group Inc., DBCA, Department of Defence, Department of Transport, Exmouth Bus Charter, Exmouth Chamber of Commerce and Industry, Exmouth District High School, Exmouth Freight and Logistics, Exmouth Game Fishing Club, Exmouth Tackle and Camping Supplies, Exmouth Visitors Centre, Exmouth Volunteer Marine Rescue, Fat Marine, Gascoyne Development Commission, Gun Marine Services, Ningaloo Lodge, Offshore Unlimited, Shire of Exmouth, BHP Petroleum, Santos, Community Member The Exmouth CLG's area of responsibility under its terms of reference overlaps the EMBA.	Yes
Onslow Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Onslow and surrounding areas.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Onslow Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes

Carnarvon Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Carnarvon and surrounding areas.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Carnarvon Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Other non-government groups or organisations			

<p>Australian Conservation Foundation (ACF)</p>	<p>Non-government organisation</p>	<p>Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Woodside has assessed that ACF's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2 of the EP).</p> <p>Woodside chose to contact ACF at its discretion in line with Section 5.3.7 of the EP.</p>	<p>No</p>
<p>Australian Marine Conservation Society (AMCS)</p>	<p>Non-government organisation</p>	<p>Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Woodside has assessed that AMCS's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2 of the EP).</p> <p>Woodside chose to contact AMCS at its discretion in line with Section 5.3.7 of the EP.</p>	<p>No</p>
<p>Conservation Council of Western Australia (CCWA)</p>	<p>Non-government organisation</p>	<p>Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Woodside has assessed that CCWA's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2 of the EP).</p> <p>Woodside chose to contact CCWA at its discretion in line with Section 5.3.7 of the EP.</p>	<p>No</p>
<p>Greenpeace Australia Pacific (GAP)</p>	<p>Non-government organisation</p>	<p>Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Woodside has assessed that GAP's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2 of the EP).</p> <p>Woodside chose to contact GAP at its discretion in line with Section 5.3.7 of the EP.</p>	<p>No</p>

350 Australia (350A)	Non-government organisation	<p>Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Woodside has assessed that 350A's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2 of the EP).</p> <p>Woodside chose to contact 350A at its discretion in line with Section 5.3.7 of the EP.</p>	No
Sea Shepherd Australia (SSA)	Non-government organisation	<p>Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>Woodside has assessed that SSA's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2 of the EP).</p> <p>Woodside chose to contact SSA at its discretion in line with Section 5.3.7 of the EP.</p>	No
Research institutes and local conservation groups or organisations			

Cape Conservation Group (CCG)	Local conservation group focused on protecting the terrestrial and marine environment of the North West Cape	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. CCG's conservation activities have the potential to intersect with the EMBA as the EMBA overlaps North West Cape.	Yes
Protect Ningaloo	Local conservation group focused on protecting the Exmouth Gulf and Ningaloo Reef and Cape Range	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Protect Ningaloo's conservation activities have the potential to intersect with the EMBA as the EMBA overlaps North West Cape and Ningaloo Reef.	Yes
University of Western Australia (UWA)	Research institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. There is no known research being undertaken by the UWA that intersects within the EMBA. Woodside chose to contact UWA at its discretion in line with Section 5.3.7 of the EP.	No
Western Australian Marine Science Institution (WAMSI)	Research institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. There is no known research being undertaken by WAMSI that intersects within the EMBA. Woodside chose to contact WAMSI at its discretion in line with Section 5.3.7 of the EP.	No
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	Research institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. There is no known research being undertaken by CSIRO that intersects within the EMBA. Woodside chose to contact CSIRO at its discretion in line with Section 5.3.7 of the EP.	No

<p>Australian Institute of Marine Science (AIMS)</p>	<p>Research institute</p>	<p>Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations.</p> <p>There is no known research being undertaken by AIMS that intersects within the EMBA.</p> <p>Woodside chose to contact AIMS at its discretion in line with Section 5.3.7 of the EP.</p>	<p>No</p>
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CONSULTATION ACTIVITIES

Macedon Operations Commonwealth EP Consultation Activities

Woodside has been conducting extensive consultation with relevant persons and other parties for this EP since June 2023 when consultation commenced with interested and affected stakeholders as part of a planned, integrated and consistent approach to stakeholder engagement for Woodside's proposed opportunities. A broad consultation process has been undertaken with relevant persons for the Macedon Operations Commonwealth EP. Consultation aims to be inclusive, transparent, voluntary, respectful and two-way. Consultation was undertaken by email, letter, phone call or meeting.

- Woodside advertised the planned activities proposed for this EP in the national, state and relevant local newspapers including The Australian, The West Australian, Pilbara News, Midwest Times, and North West Telegraph (7 June 2023) (see **Record of Consultation, reference 1.34**). Regional newspapers do not require subscription and are available and in some cases delivered directly to households. All communities within or adjacent to the EMBA had access to this information via this media. No direct comments or feedback were received from the advertisements.
- A Consultation Information Sheet was provided to relevant persons and persons Woodside chose to contact (see **Section 5.3.4** of the EP), which included details such as an activity overview, maps, a summary of key risks and/or impacts and management measures (**Record of Consultation, reference 1.33**).
- Since the commencement of the initial consultation period (June 2023), the Stakeholder Consultation Information Sheet has been available on the Woodside website. The Woodside Consultation Information Sheets include a toll-free 1800 phone number and Woodside's feedback email address (feedback@woodside.com.au).
- Additional targeted information was provided to relevant marine users including AHO and AMSA – Marine Safety (Record of Consultation, reference 1.37). The targeted information included maps and additional information relevant to the specific category of persons. The relevant persons had a 30-day period in which to provide feedback.
- Where appropriate, Woodside conducted phone calls and meetings with relevant persons.
- Where appropriate, targeted follow-up emails were sent to relevant persons who had not provided a response prior to the close of the target feedback period.
- Woodside considered relevant person responses and assessed the merits and relevance of objections and claims about the potential adverse impact of the proposed activity set out in the EP, in accordance with the intended outcome of consultation (see **Section 5.2** of the EP).
- Consultation activities undertaken with relevant persons are summarised at **Table 2**.
- Engagement undertaken with persons or organisations Woodside assessed as not relevant but chose to contact (see **Section 5.3.4** of the EP) or self-identified and Woodside assessed as not relevant are summarised at **Table 3**.
- From May to September 2023, Woodside commenced a geotargeted sponsored social media campaign (**Record of Consultation, reference 2.28**) to various local government authorities within or coastally adjacent to the EMBA for the proposed activities. The campaign brought the proposed activity to the attention of persons who may be interested and advised persons or organisations on how they can find out about Woodside's proposed activities by visiting Woodside's website.

Platform	Geotargeted Reach	Post Dates	Impact
Facebook	Regional: Users 18+ located within 80kms of Carnarvon, Denham, Exmouth, Onslow, Port Hedland, and Karratha	22 August 2023 – 11 September 2023	Reach: 240,329 Frequency: 3.02 Impressions: 726,563 Clicks: 1941 Click Through Rates%: 0.27%
Instagram	Regional: Users 18+ located within 80kms of Carnarvon, Denham, Exmouth, Onslow, Port Hedland, and Karratha	22 August 2023 – 11 September 2023	Reach: 114,372 Frequency: 2.53 Impressions: 288,810 Clicks: 257 Click Through Rates%: 0.09%

- From June 2023, Woodside held a number of Community information sessions where this EP's Consultation Information Sheets were available and discussed. See tables in **Record of Consultation, reference 2.29, 2.30 and 2.31.**

Date (2023)	Location	Event (if applicable)
17 June	Exmouth	PHI Helicopters Community Open Day
22 June	Roebourne	
28 and 29 June	Karratha	
19 July	Roebourne	
5 and 6 August	Karratha	FeNaCING
18 August	Onslow	Passion of the Pilbara Festival
18, 19 and 20 September	Karratha, Port Hedland and Roebourne	Community Consultation Roadshow
16 and 17 October	Carnarvon and Denham	Community Consultation Roadshow
23 October	Exmouth	Community Consultation Roadshow

Traditional Custodian Specific Consultation

In addition to the approaches above including community information sessions, additional activities were undertaken with relevant Traditional Custodians, which were specifically designed to provide for effective engagement with Traditional Custodians and so that information was provided in a form that was readily accessible and appropriate (**Section 5.5**). Consultation undertaken specifically with Traditional Custodians for this Environment Plan includes:

- Direct engagement with nominated representative bodies via the contact listed on the ORIC website, requesting advice on how they would like to be engaged and asking whether other members and/or individuals should be consulted. This has resulted in:
 - Meetings with directors, elders and any nominated representatives, on country or in Perth
 - Requests and offers of resourcing to enable and support consultation
 - Exchange of written feedback and correspondence

- Summary Consultation Information Sheet, developed and reviewed by Indigenous representatives in collaboration with technical experts to ensure content is appropriate to the intended recipients, was provided to relevant Traditional Custodian groups (**Record of Consultation, reference 1.32**) and phone calls to provide context to the consultation made.
- Ongoing efforts were made to engage and develop relationships with these bodies via a variety of means such as email, phone calls, alternative contacts, texts, social media and in some cases physical visits.
- Consultation meetings with attendees decided by Traditional Custodian groups, supported by senior Woodside representatives, subject matter experts, First Nations Relations advisers with skills and experience in community engagement. Meetings are developed through a two-way consultation process to ensure effective information sharing via:
 - Mutually agreed agenda avoiding time pressure
 - Encouraging Traditional Custodian attendees to control the pace of the meeting and pause at any time to ask questions, seek clarification or provide feedback
 - Visual aids such as posters, presentations, simplified technical videos and real-world pictures and footage
 - Emphasis on potential planned and unplanned risks and impacts of the activity
 - Ample opportunity for questions and feedback
 - Discussion about ongoing relationship development and opportunities
 - Distribution of hard-copy Consultation Information Sheets (**Record of Consultation, reference 1.33**) and Summary Consultation Information Sheets (**Record of Consultation, reference 1.32**).
 - Meeting all costs such as sitting fees, travel, legal support and executive support and other support required.
- Woodside has a geotargeted sponsored social media campaign (**Record of Consultation, reference 2.28**) to various communities that are coastally adjacent to the EMBA for the proposed activities.
 - The wide-reaching campaign brought the proposed activity to the attention of persons who may be interested and advised persons or organisations how they can find out about Woodside's proposed activities by visiting Woodside's website, which details the intent of consultation with relevant persons under the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). The campaign reached around 106,500 people and was viewed close to a million times to date across various regions as shown in **Record of Consultation, reference 2.28**.
 - These social media posts were developed with input from Indigenous representatives. Social media is a highly effective means to engage Indigenous audiences as outlined in Indigenous Digital Life (Professor Carlson, 2021). Advertisements used language and information appropriate to Indigenous audiences. Feedback from community engagements indicates a high level of penetration for this technique.

Woodside has employed a diverse range of techniques to allow relevant persons to become aware of the proposed activity and how it may affect their functions, activities or interests, and to understand their ability to provide feedback. The combination of PBC engagement meetings, traditional print media, social media and face-to face community interaction was designed with input from Indigenous representatives and adapted to the audience, so that it provides a wide-ranging opportunity to consult.

Table 2: Consultation Report with Relevant Persons or Organisations

Commonwealth and WA State Government Departments or Agencies – Marine		
Australian Border Force (ABF)		
<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with ABF for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Australian Border Force on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided the Australian Border Force with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed ABF advising of the proposed activity (Record of Consultation, reference 1.1), provided a Consultation Information Sheet and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.1). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	Woodside has addressed maritime security-related issues in Section 6.6.1 of this EP based on previous offshore activities. No additional measures or controls are required.
Australian Fisheries Management Authority (AFMA)		

<p>Woodside has discharged its obligations for consultation regulation 25 of the Environment Regulations and consultation with AFMA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Australian Fisheries Management Authority on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has addressed and responded to the Australian Fisheries Management Authority over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed AFMA advising of the proposed activity (Record of Consultation, reference 1.6), provided a Consultation Information Sheet and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.5). • (1) On 18 July 2023, AFMA replied advising it had no specific comment on the activities but asked if not already done so, encouraged Woodside to engage directly with operators in the relevant fisheries. • On 18 July 2023, Woodside responded and confirmed it had provided information to the relevant fishery licence holders. 		
<p>Summary of Feedback, Objection or Claim</p>	<p>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</p>	<p>Inclusion in Environment Plan</p>
<p>(1) AFMA has requested Woodside consult with operators who have entitlements to fish within the proposed area.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>(1) Woodside has addressed AFMA’s request to consult operators who have entitlements to fish within the proposed area.</p> <p>Woodside has provided consultation information to AFMA, DAFF - Fisheries, CFA, and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>(1) Woodside has assessed the relevancy of Commonwealth fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>Woodside considers the measures and controls in the EP address AFMA’s functions, interests or activities.</p> <p>No additional controls are required.</p>
<p>Australian Hydrographic Office (AHO)</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with AHO for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Consultation Information provided to AHO on 28 June 2023 based on their function, interest and activities. • Woodside has addressed and responded to the AHO over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed AHO advising of the proposed activity (Record of Consultation, reference 1.4), provided a Consultation Information Sheet and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • (1) On 29 June 2023, AHO emailed Woodside acknowledging the proposed activity and advised the data supplied will now be registered, assessed, prioritised and validated in preparation for updating AHO’s Navigational Charting products. • On 19 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.25). • (1) On 20 July 2023, AHO emailed Woodside acknowledging the proposed activity and advised the data supplied will now be registered, assessed, prioritised and validated in preparation for updating AHO’s Navigational Charting products. • On 1 August 2023, Woodside responded and thanked AHO for its feedback and advised that in accordance with feedback provided by AMSA for this EP, Woodside confirms it will: <ul style="list-style-type: none"> ○ Notify the AHO no less than 4 weeks before operations commence in order to promulgate a Notice to Mariners. ○ Provide an update to the AHO on any material changes to planned activities. 		
<p>Summary of Feedback, Objection or Claim</p>	<p>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</p>	<p>Inclusion in Environment Plan</p>
<p>(1) AHO has acknowledged receipt of Woodside’s consultation emails.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>(1) Woodside has responded and confirmed it will notify the AHO no less than 4 weeks before operations commence and provide an update to AHO on material changes.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>(1) Woodside will notify the AHO no less than four working weeks before operations commence, as referenced as PS 1.4 in this EP.</p> <p>Woodside considers the measures and controls in the EP address AHO’s functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<p>Australian Maritime Safety Authority (AMSA) - Marine Safety</p>		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with AMSA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since June 2023
- Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback.
- Consultation Information provided to AMSA – Marine Safety on 28 June 2023 based on their function, interest and activities.
- Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community.
- Woodside has addressed and responded to AMSA – Marine Safety over a 7 month period.

Summary of information provided and record of consultation:

- On 28 June 2023, Woodside emailed AMSA advising of the proposed activity (Record of Consultation, reference 1.4) and provided a Consultation Information Sheet and a link to NOPSEMA’s brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.3).
- On 13 July 2023, AMSA emailed Woodside requesting:
 - (1) requested that AMSA’s Joint Rescue Coordination Centre (JRCC) be notified at least 24–48 hours before operations commence;
 - (2) requested that the AHO be contacted no less than four working weeks before operations commence for the promulgation of related notices to mariners;
 - (3) requested that all vessels exhibit appropriate lights and shapes to reflect the nature of operations; and
 - (4) requested that all vessels comply with the International Rule for Preventing Collisions at Sea.
- On 19 July 2023, Woodside responded thanking AMSA for its feedback and confirmed Woodside will:
 - notify the AHO no less than 4 weeks before operations commence;
 - notify AMSA’s JRCC at least 24-48 hours before operations commence;
 - notify AMSA’s JRCC when operations end;
 - notify the AHO no less than 4 weeks before operations commence; and
 - provide updates to both the AHO and AMSA on any material changes to planned activities.
- On 31 July 2023, Woodside emailed AMSA to propose the following notification protocols given the ongoing nature of activities during the life of the EP. Woodside will notify:
 - AMSA JRCC where vessel activities are undertaken for more than three weeks at a time in the Operational Area (but outside the Petroleum Safety Zone), as defined in the Operations Environment Plans. Notification at least 24-48 hours before activity commencement.
 - AHO with details relevant to the operations, to enable them to generate a temporary Maritime Safety Information Notifications (MSIN) and temporary Notice to Mariners (NTM) for activities where vessel activities are to be undertaken for more than three weeks at a time in the Operational Area (but outside the Petroleum Safety Zone), as defined in the Operations Environment Plans. Notification no less than four weeks before operations.
 - Woodside seeks AMSA’s confirmation that these protocols are acceptable to AMSA for its planned activities under the revised Operations EP.
- (5) On 1 August 2023, AMSA emailed Woodside and advised it can confirm these protocols are acceptable to AMSA for Woodside’s planned activities under the revised Operations Environment Plans.

Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>AMSA has provided feedback and requested that:</p> <p>(1) AMSA’s Joint Rescue Coordination Centre (JRCC) be notified at least 24–48 hours before operations commence;</p> <p>(2) the AHO be contacted no less than four working weeks before operations commence for the promulgation of related notices to mariners;</p> <p>(3) all vessels exhibit appropriate lights and shapes to reflect the nature of operations; and</p> <p>(4) all vessels comply with the International Rule for Preventing Collisions at Sea.</p> <p>(5) AMSA confirmed that Woodside’s notification protocols are acceptable.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>Woodside has addressed AMSA’s requests and proposed updated notification protocols given ongoing nature of activities during the life of the EP.</p> <p>Woodside will notify:</p> <p>(1) AMSA’s JRCC where vessel activities are undertaken for more than three weeks at a time in the Operational Area. Notification at least 24-48 hours before activity commencement</p> <p>(2) notify AHO with details relevant to the operations, to enable them to generate a temporary Maritime Safety Information Notifications (MSIN) and temporary Notice to Mariners (NTM) for activities to be undertaken for more than three weeks at a time in the Operational Area</p> <p>(3) Woodside confirmed vessels will exhibit appropriate lights and shapes to reflect the nature of operations.</p> <p>(4) Woodside does not propose to implement further anti-collision measures for the activity at this time but collision risk mitigation measures are constantly being evaluated and implemented.</p> <p>(5) Woodside notes the feedback received from AMSA.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>(1) Woodside will notify AMSA’s JRCC at least 24–48 hours before activities commence for each survey, as referenced as PS 1.5 in this EP.</p> <p>(2) Woodside will notify the AHO no less than four working weeks before operations commence (where vessels will be in the Operational Area, but outside of the Petroleum Safety Zone >3 weeks), as referenced as a PS 1.4 in this EP.</p> <p>(3,4) The EP contains a number of other controls that address AMSA’s feedback on lighting and compliance with the international rule for preventing collisions at sea, specifically safety zones are established (temporarily around the MODU and permanently around the facility), vessels are required to comply with marine orders and the facility’s collision prevention system will be implemented.</p> <p>(5) Not required.</p> <p>Woodside considers the measures and controls in the EP address AMSA – Marine Safety’s functions, interests or activities.</p>
<p>Australian Maritime Safety Authority (AMSA) – Marine Pollution</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with AMSA – Marine Pollution for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to AMSA – Marine Pollution on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has addressed and responded to AMSA – Marine Pollution over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed AMSA advising of the proposed activity (Record of Consultation, reference 1.5), provided a Consultation Information Sheet and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.4). • On 18 July 2023, AMSA – Marine Pollution replied with standard response that the email would be actioned as soon as possible by relevant officer. • On 17 October 2023, Woodside emailed DoT and provided the five-year revision of the Oil Pollution First Strike Plan (Appendix H) – the Woodside Macedon Operations (Commonwealth Waters) – Oil Pollution First Strike Plan. 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>AMSA – Marine Pollution has acknowledged receipt of Woodside’s consultation emails.</p> <p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided AMSA – Marine Pollution with a copy of the Oil Pollution First Strike Plan Woodside and has addressed oil pollution planning and response at Appendix D.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside has addressed oil pollution planning and response in Appendix D.</p> <p>No additional measures or controls are required.</p>
<p>Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries and Biosecurity (marine pests, vessels, aircraft and personnel) (formerly DAWE)</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DAFF for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Consultation Information provided to Department of Agriculture, Fisheries and Forestry – Fisheries and Biosecurity on 28 June 2023 based on their function, interest and activities. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided the Department of Agriculture, Fisheries and Forestry with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed DAFF advising of the proposed activity (Record of Consultation, reference 1.13), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 19 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.11). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan

<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has consulted AFMA, DAFF - Fisheries, CFA and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>The EP demonstrates that the proposed activities are outside the boundaries of a proclaimed Commonwealth Marine Park and identifies that there are no credible impacts to the values of any Commonwealth Marine Parks as a result of planned activities (Section 4.8). While impacts to Commonwealth Marine Parks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.6.</p> <p>The Environment Plan demonstrates that there are no known underwater heritage sites or shipwrecks within the Petroleum Activities Area and identifies that there are no credible impacts to the values of any underwater heritage or shipwrecks as a result of planned activities (Section 4.9.1). While impacts to underwater heritage sites or shipwrecks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.6.</p> <p>Vessels are required to comply with the Australian Biosecurity Act 2015, specifically the Australian Ballast Water Management Requirements (as defined under the Biosecurity Act 2015) (aligned with the International Convention for the</p>
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<p>Department of Defence (DoD)</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DoD for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to DoD on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided the DoD with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed DoD advising of the proposed activity (Record of Consultation, reference 1.14) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 19 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.12). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside will notify the AHO no less than four working weeks before operations commence, as referenced as PS 1.4 in this EP.</p> <p>Notifying the AHO provides DoD with information of the PAP through maritime safety information.</p> <p>No additional measures or controls are required.</p>
<p>Department of Primary Industries and Regional Development (DPIRD)</p>		
<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DPIRD for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p>		

<ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to DPIRD on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has addressed and responded to DPIRD over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed DPIRD advising of the proposed activity (Record of Consultation, reference 1.2), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • (1) On 29 June 2023, DPIRD emailed Woodside noting the relevant work is primarily routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities and DPIRD noted that it assumed Woodside will include consultation and input from relevant state commercial and recreational fishery licence holders. • On 19 July 2023, Woodside emailed thanking DPIRD for the email and confirmed it has consulted relevant state commercial fishery licence holders and recreational fishery licence holders. 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>(1) DPIRD has provided feedback noting that the relevant work is primarily routine production and operations, and IMMR activities. DPIRD requested that the fisheries that may potentially be impacted be consulted.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>(1) Woodside confirmed with DPIRD it has consulted state commercial fishery licence holders and recreational fishery licence holders that are active within the Operational Area for the proposed activity.</p> <p>Woodside has provided consultation information to DPIRD, WAFIC, and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>(1) Woodside has assessed the relevancy of State fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>Woodside considers the measures and controls in the EP address DPIRD’s functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<p>Department of Transport (DoT)</p>		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DoT for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since June 2023
- Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback.
- Consultation Information provided to DoT on 28 June 2023 based on their function, interest and activities.
- Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community.
- Woodside has addressed and responded to DoT over a 7 month period.

Summary of information provided and record of consultation:

- On 28 June 2023, Woodside emailed DoT advising of the proposed activity (Record of Consultation, reference 1.1), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.1).
- On 17 October 2023, Woodside emailed DoT and provided the five-year revision of the Oil Pollution First Strike Plan (FSP) (Appendix H) – the Woodside Macedon Operations (Commonwealth Waters) – Oil Pollution FSP. Woodside noted for DoT’s reference, that DoT was previously provided the Macedon Operations (State Waters) Oil Pollution FSP for comment, responding to the review on 13 July 2023.
- (1) On 14 November 2023, DoT emailed Woodside asking for clarifications on the Oil Pollution FSP:
 - The difference between the EMBA in the stakeholder consultation information sheet and in the Oil Pollution FSP.
 - The modelling used for oil spill trajectory.
 - The receptors impacted beyond 48 hours of a spill.
 - The alignment with DoT’s Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020) (IGN).
 - Feedback timeframe.
- On 29 November 2023, Woodside provided a detailed response to all the queries raised by DoT including:
 - Advising that Woodside has aligned the roles in Appendix F of the Oil Pollution FSP to the DoT Industry Guidance Note requirements as per the request in DoT’s email of 14 November 2023.
 - updated the IMT figure in Appendix E of the Oil Pollution FSP.
- (1) On 22 December 2023, DoT emailed Woodside to confirm preference in receiving worst-case EMBA related to specific activities.
- On 22 December 2023, Woodside emailed DoT confirming future submissions will provide EMBA’s that are per-activity.

Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
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<p>(1) DoT asked for clarification on Woodside’s Oil Pollution FSP and requested to receive worst-case EMBA related to specific activities.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>(1) Woodside has addressed DoT’s feedback, including clarifying its Oil Pollution FSP and confirming submitting EMBA’s related to specific activities.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>(1) Woodside will provide DoT with a copy of the accepted Oil Pollution First Strike Plan, as referenced in the OSPRMA (Appendix H).</p> <p>Woodside considers the measures and controls in the EP address DoT’s functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<p>Department of Planning, Lands and Heritage (DPLH)</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DPLH for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to DPLH on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has addressed and responded to DPLH over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed DPLH advising of the proposed activity (Record of Consultation, reference 1.17), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.15). • (1) On 14 July 2023, DPLH emailed Woodside thanking it for the opportunity to provide feedback on the proposed activities and confirmed it did not have any feedback, subject to consultation with the relevant stakeholders. • On 19 July 2023, Woodside emailed DPLH to thank it for its feedback and for confirming it has no comment on the proposed activities. 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan

<p>(1) DPLH confirmed it doesn't have any feedback on the proposed activities.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>(1) Woodside notes DPLH's confirmation that it doesn't have any feedback on the proposed activities.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>(1) Not required.</p> <p>The Environment Plan demonstrates that there are no known underwater heritage sites or shipwrecks within the Petroleum Activities Area and identifies that there are no credible impacts to the values of any underwater heritage or shipwrecks as a result of planned activities (Section 4.9.1). While impacts to underwater heritage sites or shipwrecks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.6.</p> <p>Woodside considers the measures and controls in the EP address DPLH's functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<p>Commonwealth and WA State Government Departments or Agencies – Environment</p>		
<p>Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (marine pests, vessels, aircraft and personnel) (formerly DAWE)</p>		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DAFF for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since June 2023
- Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback.
- Consultation Information provided to DAFF - Biosecurity on 28 June 2023 based on their function, interest and activities.
- Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community.
- Woodside has sent a follow up email seeking feedback on the proposed activities.
- Woodside has provided DAFF - Biosecurity with the opportunity to provide feedback over a 7 month period.

Summary of information provided and record of consultation:

- On 28 June 2023, Woodside emailed DAFF advising of the proposed activity (Record of Consultation, reference 1.13), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 19 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.11).

Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
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<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has consulted AFMA, DAFF - Fisheries, CFA and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>The EP demonstrates that the proposed activities are outside the boundaries of a proclaimed Commonwealth Marine Park and identifies that there are no credible impacts to the values of any Commonwealth Marine Parks as a result of planned activities (Section 4.8). While impacts to Commonwealth Marine Parks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.6.</p> <p>The EP demonstrates that there are no known underwater heritage sites or shipwrecks within the Petroleum Activities Area and identifies that there are no credible impacts to the values of any underwater heritage or shipwrecks as a result of planned activities (Section 4.9.1). While impacts to underwater heritage sites or shipwrecks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.6.</p> <p>Vessels are required to comply with the Australian Biosecurity Act 2015, specifically the Australian Ballast Water Management Requirements (as defined under the Biosecurity Act 2015) (aligned with the International Convention for the</p>
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		<p>Control and Management of Ships' Ballast Water and Sediments) to prevent introducing IMS. Vessels will be assessed and managed to prevent the introduction of invasive marine species in accordance with Woodside's Invasive Marine Species Management Plan (see Section 6.6.3).</p> <p>Woodside has assessed the relevancy of Commonwealth fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>No additional measures or controls are required.</p>
<p>Department of Climate Change, Energy, the Environment and Water (DCCEEW)</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DCCEEW for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to DCCEW on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has addressed and responded to DCCEW over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed DCCEEW advising of the proposed activity (Record of Consultation, reference 1.15), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.13). • (1) On 19 July 2023, DCCEEW emailed Woodside and advised that the approach to risk mitigation and compliance with the UCH Act requirements described aligns with the advice provided to proponents. DCCEEW asked that Woodside continue to consult with its team as needed on these activities. • On 3 August 2023, Woodside replied that it would apply the methodology described and confirmed that Woodside will keep DCCEEW’s UCH team informed of future developments related to the EP. 		
<p>Summary of Feedback, Objection or Claim</p>	<p>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</p>	<p>Inclusion in Environment Plan</p>

<p>(1) DCCEEW advised that the approach to risk mitigation and compliance with the UCH Act requirements aligned with their advice and asked to continue to be consulted as needed on these activities.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>(1) Woodside will apply the methodology described and will keep DCCEEW's UCH team informed of future developments related to the EP.</p> <p>Woodside has consulted AFMA, DAFF - Fisheries, CFA and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>The Environment Plan demonstrates that the proposed activities are outside the boundaries of a proclaimed Commonwealth Marine Park and identifies that there are no credible impacts to the values of any Commonwealth Marine Parks as a result of planned activities (Section 4.8). While impacts to Commonwealth Marine Parks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.6.</p> <p>The Environment Plan demonstrates that there are no known underwater heritage sites or shipwrecks within the Petroleum Activities Area and identifies that there are no credible impacts to the values of any underwater heritage or shipwrecks as a result of planned activities (Section 4.9.1). While impacts to underwater heritage sites or shipwrecks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.6.</p> <p>Vessels are required to comply with the Australian Biosecurity Act 2015, specifically the Australian Ballast Water Management Requirements (as defined under the Biosecurity Act 2015) (aligned</p>
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		<p>with the International Convention for the Control and Management of Ships' Ballast Water and Sediments) to prevent introducing IMS. Vessels will be assessed and managed to prevent the introduction of invasive marine species in accordance with Woodside's Invasive Marine Species Management Plan (see Section 6.6.3).</p> <p>Woodside has assessed the relevancy of Commonwealth fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>No additional measures or controls are required.</p>
<p>Director of National Parks (DNP)</p>		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DNP for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since June 2023
- Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback.
- Consultation Information provided to DNP on 28 June 2023 based on their function, interest and activities.
- Woodside has provided a link to NOPSEMA's brochure Consultation on offshore petroleum environment plans: Information for the community.
- Woodside has sent a follow up email seeking feedback on the proposed activities.
- Woodside has provided DNP with the opportunity to provide feedback over a 7 month period.

Summary of information provided and record of consultation:

- On 28 June 2023, Woodside emailed DNP advising of the proposed activity (Record of Consultation, reference 1.16), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.14).
- On 7 December 2023, DNP emailed Woodside advising
 - (1) DNP noted as the planned activities do not overlap any AMPs, there are no authorisation requirements from the DNP,
 - (2) Woodside should consider the AMPs and their representativeness and ensure the EP for the proposed activity:
 - Identifies and manages all impacts and risks on AMP values to an acceptable level and considers all options to avoid or reduce them to ALARP,
 - Clearly demonstrates that the activity will not be inconsistent with the management plan.DNP referred Woodside to the North-west Marine Parks Network Management Plan 2018 and the Australian Marine Parks Science Atlas.
 - (3) DNP advised it did not require further notification of progress regarding this activity unless details regarding the activity changed and resulted in an overlap with or new impact to a marine park, or for emergency responses.
 - (4) Woodside's EP should identify offshore petroleum activities to ensure risks to AMPs are assessed and effective migration applied to mitigate breaches to the EPBC Act,
 - (5) Woodside should make DNP aware of any oil/gas pollution incidences which occur within a marine park or are likely to impact on a marine park as soon as possible.
- On 8 December 2023, Woodside thanked DNP for its response and advised:
 - Woodside noted DNP's confirmation that:
 - Planned activities do not overlap any Australian Marine Parks (AMPs),
 - There are no authorisation requirements from the DNP at this time.
 - Woodside had taken into consideration the DNP and NOPSEMA's 'Petroleum Activities and Australian Marine Parks' guidance note while preparing this EP to ensure the EP:
 - Identifies and manages all impacts and risks on AMP values (including ecosystem values) to an acceptable level and has considered all options to avoid or reduce them to as low as reasonably practicable (ALARP),

<ul style="list-style-type: none"> ▪ Clearly demonstrates that the activity will not be inconsistent with the North-west Marine Parks Network Management Plan 2018. – Woodside would notify DNP in relation to the activity if details regarding the activity changed and resulted in an overlap with, or new impact to, a marine park, or for emergency responses. 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>DNP has provided feedback regarding</p> <p>(1) Noted the planned activities did not overlap any AMPs, there were no authorisation requirements, and no claims and objections at this time,</p> <p>(2, 3) Advised it did not require further notification unless details regarding the activity change resulting in an overlap or new impact to a marine park, or for emergency responses,</p> <p>(4) Referenced the NOPSEMA and Parks Australia guidance note that outlines what titleholders need to consider and evaluate for an EP and the North-west Marine Parks Network Management Plan 2018,</p> <p>(5) Advised that it should be made aware of oil/gas pollution incidences which occur within a marine park or are likely to impact on a marine park as soon as possible.</p> <p>While feedback has been received, there were no objections or claims.</p>	<p>Woodside has responded and:</p> <p>(1,3) Noted DNP had no objections or claims at this time and that planned activities did not overlap any AMPs, nor were there any authorisation requirements.</p> <p>(4) confirmation that Woodside has taken into consideration the ‘Petroleum Activities and Australian Marine Parks’ guidance note developed and published jointly by DNP and NOPSEMA, while preparing these EPs.</p> <p>(2, 5) Confirmed it would contact the DNP if details regarding the activity change and result in an overlap with or new impact to a marine park, or for an emergency response, as per the commitment in the Oil Pollution First Strike Plan (Appendix H).</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>(1) Not required.</p> <p>(2, 5) Woodside’s Oil Pollution First Strike Plan for this EP will incorporate notifications to DNP (See Appendix H of this EP).</p> <p>(3, 4) Woodside has assessed the environmental risks of planned activities in Section 7 of this EP.</p> <p>No additional measures or controls are required.</p>
<p>Department of Biodiversity, Conservation and Attractions (DBCA)</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DBCA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to DBCA on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has addressed and responded to DBCA over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed DBCA advising of the proposed activity (Record of Consultation, reference 1.1), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.1). • On 27 July 2023, DBCA sent an email thanking Woodside for providing information in relation to its proposed revision of its Macedon Operations Commonwealth and State EPs. The DBCA noted: <ul style="list-style-type: none"> ○ (1) The Macedon Operations are located in vicinity of reserves managed by DBCA under the CALM act and given the ecological importance of areas potentially affected by a hydrocarbon release from the proposed activities, it is considered important that the baseline values and state of the potentially affected environment are appropriately understood and documented prior to operations commencing. ○ (2) In the event of a hydrocarbon release, it is requested that Woodside notify DBCA’s Pilbara regional office as soon as practicable on (08) 9182 2000. • On 2 August 2023, Woodside replied thanking DBCA for its response. Woodside informed DBCA Woodside maintains knowledge and an understanding of areas of ecological importance within and adjacent to operational areas and advised its oil spill scientific monitoring program will provide for a quantitative assessment of the overall environmental impacts in the event of an unplanned hydrocarbon release. 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan

<p>DBCA provided feedback relating to:</p> <p>(1) documentation of areas potentially affected by any operations commencing that have the potential to lead to hydrocarbon releases</p> <p>(1) requesting Woodside to establish appropriate baseline survey data on the current state of areas</p> <p>(1) DBCA encourages Woodside to acquire the necessary information to implement a Before-After, Control-Impact (BACI) framework</p> <p>(2) DBCA also provided an 'Incidents and Emergency Response' in case of a hydrocarbon release</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>Woodside has addressed the DBCA's feedback, including:</p> <p>(1) Areas of ecological importance in the proximity of the Environment Plan Operational Areas will be not impacted by planned activities.</p> <p>(2) Woodside's oil spill scientific monitoring program (SMP) will provide for a quantitative assessment of the overall environmental impacts in the event of an unplanned hydrocarbon release, or any release event with the potential to contact sensitive.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>The Environment Plan demonstrates that the proposed activities are outside the boundaries of a proclaimed State Marine Park and identifies that there are no credible impacts to the values of any State Marine Parks as a result of planned activities (Section 4.8). While impacts to Commonwealth Marine Parks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.6.</p> <p>Woodside considers the measures and controls in the EP address DBCA's functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<p>Commonwealth and State Government Departments or Agencies – Industry</p>		
<p>Department of Industry, Science and Resources (DISR)</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DISR for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to DISR on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided DISR with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed DISR advising of the proposed activity (Record of Consultation, reference 1.1), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.1). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
<p>Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) (formerly DMIRS)</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DEMIRS for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to DMIRS on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided DMIRS with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed DMIRS advising of the proposed activity (Record of Consultation, reference 1.1), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.1). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Commonwealth Commercial fisheries and representative bodies		
Commonwealth Fisheries Association (CFA)		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with CFA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to CFA on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided CFA with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed CFA advising of the proposed activity (Record of Consultation, reference 1.9), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.26). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has consulted AFMA, DAFF - Fisheries, CFA, ASBTIA, Tuna Australia and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside has assessed the relevancy of Commonwealth fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>Woodside considers the measures and controls described within this EP address the potential impact from the proposed activities on CFA’s functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<p>State Commercial fisheries and representative bodies</p>		

Marine Aquarium Managed Fishery		
<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Marine Aquarium Managed Fishery for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Marine Aquarium Managed Fishery on 28 June 2023 based on their function, interest and activities. • Woodside referred to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has provided Marine Aquarium Managed Fishery with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent a letter to Marine Aquarium advising of the proposed activity (Record of Consultation, reference 1.10), provided a Consultation Information Sheet, and referred to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up letter (Record of Consultation, reference 2.8). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to DPIRD, WAFIC and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside has assessed the relevancy of State fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>No additional measures or controls are required.</p>
Mackerel Managed Fishery (Area 2)		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Mackerel Managed Fishery (Area 2) for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Mackerel Managed Fishery (Area 2) on 28 June 2023 based on their function, interest and activities. • Woodside referred to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has provided Mackerel Managed Fishery (Area 2) with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent a letter to Mackerel Managed Fishery (Area 2) advising of the proposed activity (Record of Consultation, reference 1.10), provided a Consultation Information Sheet, and referred to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up letter (Record of Consultation, reference 2.8). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to DPIRD, WAFIC and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside has assessed the relevancy of State fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>No additional measures or controls are required.</p>
<p>West Coast Deep Sea Crustacean Managed Fishery</p>		

<p>Woodside has discharged its obligations for consultation regulation 25 of the Environment Regulations and consultation with West Coast Deep Sea Crustacean Managed Fishery for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to West Coast Deep Sea Crustacean Managed Fishery on 28 June 2023 based on their function, interest and activities. • Woodside referred to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has provided West Coast Deep Sea Crustacean Managed Fishery with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent a letter to West Coast Deep Sea Crustacean Managed Fishery advising of the proposed activity (Record of Consultation, reference 1.10), provided a Consultation Information Sheet, and referred to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up letter (Record of Consultation, reference 2.8). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	<p>Woodside has provided consultation information to DPIRD, WAFIC and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside has assessed the relevancy of State fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>No additional measures or controls are required.</p>
Specimen Shell Managed Fishery		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Specimen Shell Managed Fishery for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Specimen Shell Managed Fishery on 28 June 2023 based on their function, interest and activities. • Woodside referred to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has provided Specimen Shell Managed Fishery with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent a letter to Specimen Shell Managed Fishery advising of the proposed activity (Record of Consultation, reference 1.10), provided a Consultation Information Sheet, and referred to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up letter (Record of Consultation, reference 2.8). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to DPIRD, WAFIC and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside has assessed the relevancy of State fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>No additional measures or controls are required.</p>
<p>Western Australian Sea Cucumber Fishery</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Western Australian Sea Cucumber Fishery for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Western Australian Sea Cucumber Fishery on 28 June 2023 based on their function, interest and activities. • Woodside referred to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has provided Western Australian Sea Cucumber Fishery with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent a letter to Western Australian Sea Cucumber Fishery advising of the proposed activity (Record of Consultation, reference 1.10), provided a Consultation Information Sheet, and referred to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up letter (Record of Consultation, reference 2.8). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to DPIRD, WAFIC and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside has assessed the relevancy of State fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>No additional measures or controls are required.</p>
<p>Onslow Prawn Managed Fishery</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Onslow Prawn Managed Fishery for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Onslow Prawn Managed Fishery on 28 June 2023 based on their function, interest and activities. • Woodside referred to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has provided Onslow Prawn Managed Fishery with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent a letter to Onslow Prawn Managed Fishery advising of the proposed activity (Record of Consultation, reference 1.10), provided a Consultation Information Sheet, and referred to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up letter (Record of Consultation, reference 2.8). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to DPIRD, WAFIC and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside has assessed the relevancy of State fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>No additional measures or controls are required.</p>
<p>Exmouth Gulf Prawn Fishery</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Exmouth Gulf Prawn Fishery for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Exmouth Gulf Prawn Fishery on 28 June 2023 based on their function, interest and activities. • Woodside referred to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has provided Exmouth Gulf Prawn Fishery with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent a letter to Exmouth Gulf Prawn Fishery advising of the proposed activity (Record of Consultation, reference 1.7), provided a Consultation Information Sheet, and referred to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up letter (Record of Consultation, reference 2.6). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to DPIRD, WAFIC and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside has assessed the relevancy of State fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>No additional measures or controls are required.</p>
<p>Pilbara Trap Fishery</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Pilbara Trap Fishery for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Pilbara Trap Fishery on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has provided Pilbara Trap Fishery with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent an email to Pilbara Trap Fishery advising of the proposed activity (Record of Consultation, reference 1.7), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.6). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to DPIRD, WAFIC and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside has assessed the relevancy of State fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>No additional measures or controls are required.</p>
<p>Pilbara Line Fishery</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Pilbara Line Fishery for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Pilbara Line Fishery on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has provided Pilbara Line Fishery with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent an email to Pilbara Line Fishery advising of the proposed activity (Record of Consultation, reference 1.7), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.6). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to DPIRD, WAFIC and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside has assessed the relevancy of State fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>No additional measures or controls are required.</p>
<p>Western Australian Fishing Industry Council (WAFIC)</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with WAFIC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to WAFIC on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has provided WAFIC with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent an email to WAFIC advising of the proposed activity (Record of Consultation, reference 1.8), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.7). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to DPIRD, WAFIC and individual relevant licence holders.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside has assessed the relevancy of State fisheries issues in Section 4.9.2 of this EP.</p> <p>Woodside consulted relevant persons as per requirements of Environment Regulations to ensure they are aware of activities in the Operational Area, as referenced as PS 1.3 in this EP.</p> <p>Woodside considers the measures and controls described within this EP address the potential impact from the proposed activities on WAFIC’s functions, interests or activities.</p> <p>No additional measures or controls are required.</p>

Recreational marine users and representative bodies		
Exmouth Recreational Marine Users		
<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Exmouth Recreational Marine Users for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Exmouth Recreational Marine Users on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has provided Exmouth Recreational Marine Users with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent an email to Exmouth Recreational Marine Users advising of the proposed activity (Record of Consultation, reference 1.12), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.10). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	<p>Woodside has provided consultation information to Recfishwest, Marine Tourism Association of WA, WA Game Fishing Association and individual recreational marine users.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	No additional measures or controls are required.
Gascoyne Recreational Marine Users		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Gascoyne Recreational Marine Users for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Gascoyne Recreational Marine Users on 28 June 2023 based on their function, interest and activities. • Woodside referred to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has provided Gascoyne Recreational Marine Users with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent a letter to Gascoyne Recreational Marine Users advising of the proposed activity (Record of Consultation, reference 1.11), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up letter (Record of Consultation, reference 2.9). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to Recfishwest, Marine Tourism Association of WA, WA Game Fishing Association and individual recreational marine users.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>No additional measures or controls are required.</p>
<p>Recfishwest</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Recfishwest for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Recfishwest on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has addressed and responded to Recfishwest over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent an email to Recfishwest advising of the proposed activity (Record of Consultation, reference 1.12), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.10). • (1) On 24 July 2023, Recfishwest sent an email to Woodside requesting to be kept informed as activities progressed and noted with regard to decommissioning planning, that subsea structures may be suitable as artificial reefs and can be beneficial to recreational fishing experiences. It noted that based on the information provided, it has no objection to the proposed activities. • On 1 August 2023, Woodside responded to Recfishwest and confirmed it had provided information to relevant fishery licence holders who have entitlements to fish within the proposed area. Woodside noted that it will continue to inform Recfishwest as activities progress. 		
<p>Summary of Feedback, Objection or Claim</p>	<p>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</p>	<p>Inclusion in Environment Plan</p>
<p>(1) Recfishwest requested to be kept informed as activities progressed and noted with regard to decommissioning planning, that subsea structures may be suitable as artificial reefs and can be beneficial to recreational fishing experiences.</p> <p>(1) Based on the information provided, Recfishwest has no objection to the proposed activities.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>(1) Woodside has addressed Recfishwest’s feedback and confirmed it will keep Recfishwest informed of future developments relating to this project as and when required.</p> <p>(2) Woodside noted Recfishwest has no objection to the proposed activities.</p> <p>Woodside has provided consultation information to Recfishwest, Marine Tourism Association of WA, WA Game Fishing Association and individual recreational marine users.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>(1) Not required.</p> <p>Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as Section 7.11.3.1 in this EP.</p> <p>Woodside considers the measures and controls in the EP address Recfishwest’s functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<p>Marine Tourism WA</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Marine Tourism WA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Marine Tourism on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Marine Tourism with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent an email to Marine Tourism WA advising of the proposed activity (Record of Consultation, reference 1.12), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.10). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to Recfishwest, Marine Tourism Association of WA, WA Game Fishing Association and individual recreational marine users.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>No additional measures or controls are required.</p>
<p>WA Game Fishing Association</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with WAGFA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to WAGFA on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided WAGFA with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside sent an email to WAGFA advising of the proposed activity (Record of Consultation, reference 1.12), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.10). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	<p>Woodside has provided consultation information to Recfishwest, Marine Tourism Association of WA, WA Game Fishing Association and individual recreational marine users.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	No additional measures or controls are required.
Titleholders and Operators		
Carnarvon Energy		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Carnarvon Energy for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Carnarvon Energy on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Carnarvon Energy with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Carnarvon Energy advising of the proposed activity (Record of Consultation, reference 1.3), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Energy Resources		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Energy Resources for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Energy Resources on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Energy Resources with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Energy Resources advising of the proposed activity (Record of Consultation, reference 1.3), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Buru Energy		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Buru Energy for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Buru Energy on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Buru Energy with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Buru Energy advising of the proposed activity (Record of Consultation, reference 1.3), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
AGI Tubridgi		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with AGI Tubridgi for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to AGI Tubridgi on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided AGI Tubridgi with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed AGI Tubridgi advising of the proposed activity (Record of Consultation, reference 1.3), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Allasso Energy		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Allasso Energy for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Allasso Energy on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Allasso Energy with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Allasso Energy advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Chevron Australia Osaka Gas Gorgon/ Tokyo Gas Gorgon/ JERA Gorgon		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Chevron for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Chevron Australia on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Chevron Australia with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Chevron Australia advising of the proposed activity (Record of Consultation, reference 1.46) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.32). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided Chevron with GIS shape files for the EP.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>Woodside considers the measures and controls in the EP address Chevron Australia’s functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<p>Western Gas</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Western Gas for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Western Gas on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Western Gas with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Western Gas advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Exxon Mobil Australia Resources Company		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Exxon Mobil Australia for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Exxon Mobil Australia on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Exxon Mobil Australia with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Exxon Mobil Australia advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Shell Australia		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shell Australia for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Shell Australia on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Shell Australia with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Shell Australia advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
ENI Australia		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with ENI Australia for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to ENI Australia on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided ENI Australia with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed ENI advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
KUFPEC		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with KUFPEC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to KUFPEC on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided KUFPEC with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed KUFPEC advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Santos WA Northwest/Santos Offshore/Santos WA Southwest/Santos (BOL)/ Santos WA PVG		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Santos for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Santos on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Santos with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Santos advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
OMV Australia		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with OMV Australia for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to OMV Australia on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided OMV Australia with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed OMV Australia advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
KATO Energy/Kato Corowa		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with KATO Energy for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Kato Energy on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Kato Energy with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Kato Energy advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
INPEX Alpha		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with INPEX for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to INPEX on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided INPEX with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed INPEX advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.2). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Peak Industry Representative bodies		
Australian Energy Producers (AEP) (formerly APPEA)		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with AEP for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to AEP on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided AEP with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed AEP advising of the proposed activity (Record of Consultation, reference 1.1) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.1). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Traditional Custodians and nominated representative corporations		
<p>Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)</p> <p>NTGAC is established under the <i>Native Title Act 1993</i> by the Baiyungu people to represent the Baiyungu people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.</p>		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with NTGAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on NTGAC's preferred method of consultation. This resulted in a face-to-face meeting being coordinated at the location of NTGAC's choosing, with NTGAC nominated representatives. This meeting included information that was readily accessible and appropriate.
- Provided Consultation Information Sheet and Consultation Summary Sheets to NTGAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity in a digestible, plain English format. Consultation Information Sheet publicly available on the Woodside website since June 2023.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls to manage potential impacts to ALARP and acceptable levels.
- Confirmed the purpose of consultation and set out in detail what is being sought through consultation.
- Asked for the consultation and information sheets to be distributed to members and individuals.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan".
- Provided response to questions asked about the activity through consultation. Through these questions, NTGAC have displayed an understanding of the activities under this Environment Plan.
- Advised that NTGAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (7 June 2023) advising of the proposed activities and requesting comments or feedback.
- Consultation information provided to NTGAC on 19 June 2023 based on their function, interest, and activities.
- Woodside has addressed and responded to NTGAC over 7 months.

Woodside asked NTGAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside has provided a reasonable opportunity for input since June 2023 and a genuine two-way dialogue has occurred via meetings and written exchanges to further understand the environment in which the activity will take place. NTGAC has engaged with the detail of the activity asking related questions. The details of these engagements are described in the consultation summary below.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 6.2.3.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on NTGAC functions, interests or activities.

Woodside does not agree with NTGAC's assertion that it has not yet been adequately consulted on the activity. Woodside has assessed the claims and feedback raised by NTGAC, as detailed later in this section alongside Woodside's response to the claims.

Summary of information provided and record of consultation:

- The NTGAC's nominated representative is the Yamatji Marlpa Aboriginal Corporation (YMAC) and the NTGAC executive officer and contact officer pursuant to the Corporations (Aboriginal and Torres Strait Islander) Act 2006 is employed by YMAC. Woodside has therefore consulted the NTGAC via YMAC.
- On 19 June 2023, Woodside emailed NTGAC the Summary Information Sheet – Macedon Operations (Record of Consultation – 1.32) and requested NTGAC's feedback (Record of Consultation – 1.28).
- On 19 June 2023, NTGAC emailed Woodside suggesting Woodside present to NTGAC on its activities.
- On 19 June 2023, Woodside emailed NTGAC proposing details of a one-day consultation meeting.
- **(1)** On 20 June 2023, NTGAC emailed Woodside to request Woodside fund YMAC's in-house environmental scientist to attend the consultation meeting.
- **(1)** On 20 June 2023, Woodside emailed NTGAC clarifying the due date for consultation, and confirming that Woodside would fund YMAC's environmental scientist to attend the consultation meeting.
- On 20 June 2023, Woodside emailed NTGAC thanking them for their assistance.
- On 20 June 2023, Woodside email NTGAC clarifying the addressee of an earlier email.
- On 21 June 2023, NTGAC emailed Woodside confirming they would like to consult on the Macedon Operations.
- On 21 June 2023, Woodside emailed NTGAC agreeing to the consultation meeting and proposing to meet to discuss.
- On 30 June 2023, NTGAC emailed Woodside a budget estimate for a one day consultation meeting proposed for 15 August 2023.
- On 5 July 2023, Woodside emailed NTGAC confirming the consultation meeting date and approving the proposed meeting costs.
- On 5 July 2023, NTGAC emailed Woodside thanking Woodside for the approval of meeting costs.
- **(2) (3) (5)** On 17 July 2023, NTGAC emailed Woodside a proposed consultation framework. YMAC advised NTGAC is not in a position to provide comments on consultation at this time. NTGAC would like to have a strategic planning workshop to develop benefits Woodside can provide under the consultation agreement and to discuss implementation of the framework.
- On 19 July 2023, Woodside emailed NTGAC NOPSEMA's Brochure and Guideline on Consultation and Draft Policy for managing gender-restricted information, and asking NTGAC to advise Woodside if there are any other Traditional Custodian groups or individuals with whom Woodside should consult. No information regarding other groups or individuals was received.
- On 19 July 2023, NTGAC emailed a revised budget estimate to Woodside.
- On 24 July 2023, Woodside emailed NTGAC proposing an agenda for the consultation meeting.
- **(5)** On 25 July 2023, Woodside emailed NTGAC/YMAC Woodside's planned Program of Ongoing Engagement with Traditional Custodians.
- On 28 July 2023, NTGAC emailed Woodside proposing a meeting day to discuss the consultation meeting approach.
- On 31 July 2023, Woodside emailed NTGAC agreeing to the meeting day.
- On 31 July 2023, NTGAC emailed Woodside proposing a meeting time and date and location.
- On 31 July 2023, Woodside emailed NTGAC confirming the meeting time and date.
- On 3 August 2023, Woodside emailed NTGAC/YMAC about an unrelated activity and thanking YMAC for the pre meeting held on 2 August and confirming the meeting planned with NTGAC on 15 August 2023. Woodside also provided links to NOPSEMA's consultation documents, including links to the Brochure, Guideline and Policy documents.

- On 9 August 2023, Woodside emailed NTGAC/YMAC requesting clarity around the meeting scheduled for 15 August 2023.
- On 11 August 2023, Woodside emailed NTGAC/YMAC confirming the proposed meeting and who the Woodside representatives would be for 15 August 2023.
- On 14 August 2023, NTGAC/YMAC emailed Woodside acknowledging the meeting to be held 15 August 2023.
- On 15 August 2023, Woodside presented to the NTGAC about several EPs including an update on this EP. At the meeting Woodside:
 - Described the Environment Plan framework, referring to the Offshore Petroleum and Greenhouse Gas Storage Act (Environment) Regulations, NOPSEMA's role as regulator and general contents of Environment Plans.
 - Displayed a map of activities open for feedback to be discussed in the meeting and provided a list of other upcoming activities which will be open for consultation in 2023.
 - Provided an update and overview of the Macedon activity.
 - Described planned and unplanned environmental risks and impacts in accordance with tables provided in the Information Sheets for the activities, emphasising that unplanned risks are not expected to occur and are unlikely.
 - Displayed and spoke to the EMBA for the Macedon activity, and the individual worst-case loss of containment scenarios identified. The Macedon activity is captured on Slide 33 & Slide 34 of the presentation.
 - Stated that Woodside wanted to understand how the functions, activities, or interests of NTGAC and the people it represents may be impacted by any of those activities.
 - Specifically asked the following:
 - How could these activities impact your cultural values, interests, and activities – does protecting the environment do enough to protect your cultural values?
 - What are your concerns about the proposed activities and what do you think we should do about them?
 - Is there anything you would like included in the EPs before submission?
 - Is there anyone else Woodside should consult with about the activities?
 - Advised that Woodside will continue to take feedback from NTGAC for the life of the EP.
 - Provided personal contact details for further feedback. Woodside provided NOPSEMA contact details, should NTGAC desire to provide feedback directly to the regulator.
- At the 15 August 2023 meeting NTGAC/YMAC asked the following questions and gave the following feedback:
 - **(4)** YMAC asked about whale sightings and response.
 - **(4)** Woodside responded that response depended on activity and controls, Marine Mammal Observers are implemented.
 - **(1)** A proposed framework for consultation was discussed, involving Woodside funding a General Project Report to be written by an independent suitably qualified and experienced consultant, to be provided to NTGAC initially and then on to Woodside.
 - **(2)** Terms for ongoing engagement were discussed, including frequency, participation, and content in context of the proposed General Project Report
 - **(5)** NTGAC Strategic Plan and relation to potential Woodside social investment opportunities were explored.
 - NTGAC stated their consultation expectations (two-way dialogue preferred over one-way presentations and requested that consultation meetings cover whole projects or phases rather than single EP activities which is too time consuming).
 - NTGAC requested that a table of EPs be submitted by December with a timeline.

- (3) NTGAC stated that they did not consider that they had been consulted on other Ep's based on engagement to date.
 - No information regarding additional groups or people Woodside should consult with was received.
 - On 31 August 2023, Woodside emailed NGTAC/YMAC to provide a copy of the presentation from 15 August 2023 and communicating Woodside's understanding of next actions:
 - (2) YMAC to provide a first draft of a consultation agreement.
 - (1) YMAC to prepare the first draft of a general report.
 - Woodside to provide a list of upcoming activities.
 - (5) Agreed to continue discussions relating to key community focus areas highlighted by NTGAC.
 - (3) Feedback from NTGAC on the appropriateness of the information given by Woodside (too technical) to enable NTGAC to provide feedback.
 - (3) The email also noted that Woodside considers consultation has commenced and is ongoing, however Woodside will work with NTGAC to develop the process further.
 - On 31 August 2023, NTGAC/YMAC emailed Woodside confirming they would respond shortly to the outcomes as assessed by Woodside and requesting response to queries in relation to another activity.
 - On 1 September Woodside emailed NGTAC/YMAC, acknowledging information requested will be provided as soon as possible.
 - On 6 September 2023, Woodside emailed NTGAC/YMAC with responses to queries about the other activity.
 - On 6 September 2023, NTGAC/YMAC emailed Woodside acknowledging information and noting they would pass over to their environmental scientist.
- Woodside will continue to pursue an ongoing two-way relationship with NTGAC under the Proposed Program of Ongoing Engagement with Traditional Custodians.

Summary of Feedback, Objection or Claim	Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>(1) NTGAC requested funding for NTGAC's in-house environmental scientist and independent General Project Report</p> <p>(2) NTGAC is developing the first draft of a Consultation Agreement and General Report. The proposal for the General Report is that it would outline the nature of the activities for each phase of the project and the risks associated with each of the relevant activities. Woodside is awaiting receipt of the initial draft of the General Report.</p> <p>(3) NTGAC claimed that they have not been consulted about the activity to</p>	<p>(1) Woodside funded YMAC's environmental scientist to attend the face-to-face meeting on 15 Aug 2023 to support consultation. No feedback was received from this activity. Woodside has also offered to financially support provision of independent, third-party advice to NTGAC such as a General Project Report, which has not been taken up.</p> <p>(2) Separate from consultation under Regulation 25 for this activity, Woodside will establish a Consultation Agreement with NTGAC. The Consultation Agreement and General Report/s would be used to frame ongoing consultation to occur as part of Woodside's commitment to post Regulation 25 consultation ongoing engagement. Sufficient information to allow informed assessment has already been provided by other means, including summary sheets developed by Indigenous staff, multiple face to face meetings with appropriate material (pictures, maps, videos) and project attendance allowing opportunity to ask questions and seek further understanding, and agreement to fund NTGAC/YMAC environmental scientist who was also present at the meetings.</p>	<p>(1) Not required</p> <p>(2) & (5) Woodside is implementing a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans. This is described further in the Program of Ongoing Engagement with Traditional Custodians, (Appendix G). This includes continued engagement regarding NTGAC's proposed Consultation Framework which will be applied to ongoing consultation, and potential support for their Strategic Plan.</p>

<p>date, stating that they could not provide information on cultural values because the information provided has been too technical and that timeframes were not sufficient.</p> <p>(4) During face-to-face engagements related to this activity and others, the NTGAC requested further information on topics related to this proposed activity which was responded to during the meetings:</p> <ul style="list-style-type: none"> Whale sightings and response <p>(5) NTGAC want to explore social investment opportunities with Woodside which may then feed into NTGAC's Strategic Plan.</p>	<p>(3) Woodside does not agree with NTGAC's claim that it has not yet been consulted on the activity, or that information provided has been too technical. Woodside met with NTGAC nominated representatives, at locations of NTGAC's choice, on 15 Aug 2023, for multiple hour sessions where the activity was described face to face by Woodside project representatives, subject matter experts and First Nations relations advisers (see Section 4.14 for approach). This included specifically developed "plain English" material developed by First Nations personnel in collaboration with technical experts, maps, pictures and a short video visually communicating the drilling process. During the meeting, NTGAC and YMAC representatives were encouraged to control the pace of the engagement and seek clarification. NTGAC and YMAC asked questions about the activity which indicates that material was engaged with. Woodside has also funded YMAC's in-house environmental scientist to support consultation. Woodside has addressed and responded to NTGAC over 7 months, demonstrating a "reasonable period" of consultation.</p> <p>(4) Woodside responded to NTGAC's requests for further information during face to face engagements, and this was considered sufficient.</p> <p>(5) Woodside is continuing to work with NTGAC regarding social investment opportunities. Woodside has assessed that the Framework for Ongoing Consultation with NTGAC is an effective mechanism for exploring opportunities for alignment with NTGAC's Strategic Plan.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 6.2.3.1 of the EP).</p>	<p>(3) Not required</p> <p>(4) Not required</p>
<p>Buurabalayji Thalanyji Aboriginal Corporation (BTAC)</p> <p>BTAC is established under the Native Title Act 1993 by the Thalanyji people to represent the Thalanyji people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.</p>		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with BTAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on BTAC's preferred method of consultation. This resulted in a face-to-face meeting being coordinated at the location of BTAC's choosing, with BTAC nominated representatives. This meeting included information that was readily accessible and appropriate.
- Consultation Information Sheet was publicly available on the Woodside website since June 2023.
- Provided Consultation Information Sheets and Consultation Summary Sheets developed by Indigenous staff to BTAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.
- Confirmed the purpose of consultation and set out in detail what was being sought through consultation.
- Asked for the consultation and information sheets to be distributed to members and interested individuals.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan".

Reasonable Period:

- Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (7 June 2023) advising of the proposed activities and requesting comments or feedback.
- Woodside commenced consultation with BTAC on 19 June 2023. Woodside has since addressed and responded to BTAC queries over 7 months.
- Woodside advised that BTAC could request the particular information provided in the consultation not be published (to align with regulation 25(4) of the environment Regulations).
- Woodside asked BTAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.
- Woodside has provided a reasonable opportunity for input since June 2023 and a genuine two-way dialogue has occurred via discussions and written exchanges to further understand the environment in which the activity will take place. BTAC has engaged with the detail of the activity asking related questions. The details of these engagements are described in the consultation summary below.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 6.2.3.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on BTAC's functions, interests or activities.

Summary of information provided and record of consultation:

- On 19 June 2023, Woodside emailed BTAC the Summary Information Sheet – Macedon Operations (Record of Consultation – 1.32) and requested BTAC's feedback (Record of Consultation – 1.29).
- **(1)** On 19 June 2023, BTAC emailed Woodside confirming receipt of the information and noting that the Macedon EMBA appears to intersect with areas in which BTAC and Thalanyji People undertake activities and assert interests and values.
- On 20 June 2023, Woodside emailed BTAC thanking them for their response.

- On 10 July 2023, Woodside spoke with BTAC by telephone.
- **(4)** On 10 July 2023, Woodside emailed BTAC seeking feedback on the Macedon EP and other activities, and proposed mechanisms for ongoing consultation including reference to correspondence that had been ongoing since prior to Woodside sending BTAC the information regarding the Macedon Operations activity.
- On 10 July 2023, BTAC emailed Woodside a letter regarding Woodside's commitment to ongoing consultation with BTAC across multiple activities.
- On 14 July 2023, Woodside emailed BTAC in response to BTAC's letter.
- On 19 July 2023, Woodside emailed BTAC NOPSEMA's Brochure and Guideline on Consultation and Draft Policy for managing gender-restricted information, and asking BTAC to advise Woodside if there are any other Traditional Custodian groups or individuals with whom Woodside should consult.
- On 19 July 2023, Woodside emailed BTAC proposing dates for a Teams meeting.
- On 19 July 2023, BTAC emailed Woodside accepting the Teams meeting.
- On 20 July 2023, Woodside emailed BTAC a draft presentation in advance of the Teams meeting. The Macedon Operations (Commonwealth) EP is noted on Slide 11 and slide 12.
- On 21 July 2023, Woodside and BTAC exchanged emails to arrange a Teams meeting time and meeting attendees.
- On 26 July 2023, Woodside emailed BTAC with a proposed Program of Ongoing Engagement with Traditional Custodians
- On 26 July 2023, Woodside emailed BTAC the draft presentation initially sent on 20 July 2023, and sent an additional presentation about Woodside's Environment Plan consultation across multiple activities. The Macedon Operations (Commonwealth) EP is addressed on slides 45-48.
- On 28 July 2023, Woodside and BTAC met via Teams.
- **(2)** On 28 July 2023, BTAC emailed Woodside with outcomes of the 28 July meeting, confirming Woodside has set aside funding for engagement, Woodside wish to meet with BTAC board (or sub-committee) as soon as available to discuss offshore activities/EPs. Confirmed that Woodside would prepare a draft framework agreement to address consultations in relation to NOPSEMA matters.
- On 31 July 2023, Woodside emailed BTAC responding to BTAC's summary of the meeting.
- **(4)** On 31 July 2023, Woodside emailed BTAC with three letters regarding a request for an ethnographic survey to inform multiple Woodside Environment Plans, a request for clarity on Sea Country areas of interest to BTAC in relation to another Environment Plan, and a request related to another activity.
- On 15 August 2023, Woodside emailed BTAC following up on correspondence provided on 31 July 2023 and proposing a meeting.
- On 22 August 2023, BTAC emailed Woodside stating that they would be in a position to discuss matters in the next few weeks.
- On 23 August 2023, Woodside emailed BTAC acknowledging receipt of the email on 22 August 2023 and discussing another matter.
- **(2)** On 14 September 2023, BTAC emailed a letter to Woodside regarding a framework agreement with BTAC. The intent of the agreement would be to formalise a co-ordinated, streamlined approach to progressing meaningful ongoing engagement and consultation.
- **(2) (3)** The letter included areas the agreed framework could address and confirmed that the agreed framework would allow BTAC to meaningfully comment on a range of issues including: How/whether EP activities could impact cultural values, interests and customary or organisational activities, Concerns and useful ways these can be addressed, Content of EPs prior to submission to NOPSEMA, Appropriate ways for mitigating risk and ensuring ongoing social licence. Support for capacity building such as through ranger programs, language and culture preservation programs.
- **(6)** Attached to the letter was a second letter outlining a proposed cost recovery mechanism for consultation activities.
- On 14 September 2023, Woodside emailed BTAC acknowledging BTAC's email of 14 September 2023 and planning further review and discussion.
- On 20 September 2023, BTAC emailed Woodside to see if Woodside is open to entering into the Cost Acceptance Letter tied to NOPSEMA-related matters.

- On 20 September 2023, BTAC emailed Woodside to ask for an update on the status of the draft framework agreement recorded in meeting outcomes from 28/7/2023.
- **(2)** On 22 September 2023, Woodside emailed BTAC accepting BTAC's proposed consultation fee structure, the list of activities that Woodside has consulted BTAC on (including this activity) and advising that the draft framework agreement was under internal review.
- On 26 September 2023, BTAC emailed Woodside advising in a change of legal representation.
- On 27 September 2023, BTAC's new legal representative Banks-Smith & Associates (BSA) emailed Woodside confirming they act for BTAC.
- On 4 October 2023, Woodside emailed BTAC via BSA thanking BTAC and stating that Woodside looked forward to an ongoing relationship with BTAC and its legal representation.
- **(2)** On 13 October 2023, BTAC via BSA Emailed Woodside confirming they act for BTAC on NOPSEMA matters. Among other things, they noted, they required an indemnity clause in the proposed framework agreement against any court action that arose from a claim against BTAC in regard to the consultation they engaged on with Woodside EP's.
- **(2)** On 31 October 2023, BTAC via BSA emailed Woodside, requesting a response to the email about indemnifying BTAC.
- **(7)** On 1 November 2023, BTAC emailed Woodside inviting Woodside to present on Woodside activities at a 1-hour slot in the BTAC Common Law Holders meeting on 27 November 2023.
- **(7)** On 1 November 2023, Woodside emailed BTAC accepting the offer to present at the Common Law Holders meeting and offering to pay costs for the meeting.
- **(2)** On 2 November 2023, Woodside emailed BSA noting they would not agree to the request to indemnify BTAC against any court proceedings as a result of consultation they engage in with Woodside on EP's. Woodside re-iterated their wish to progress the framework agreement to build their relationship with BTAC. Woodside again noted that they wish to progress other matters, including the commitment to mapping BTAC's sea country values.
- **(2)** On 2 November 2023, BSA emailed Woodside requesting more detail about Woodside not supporting the indemnity request.
- On 3 November 2023, BSA emailed Woodside confirming that BTAC would like Woodside to present to a BTAC members meeting on 27 November 2023 in Carnarvon.
- **(2)** On 18 November 2023, Woodside emailed BSA with further information about why they will not indemnify BTAC as requested in the 13 October 2023 email. Woodside explained that it could harm genuine engagement, may promote behaviours in others who may become aware of the indemnity by Woodside, and it would not be good practice to provide an indemnity in relation to the act or omission of other parties that Woodside would not necessarily engage with. Woodside again noted their commitment to build an ongoing relationship with BTAC.
- **(7) (6) (4)** On 27 November 2023, Woodside attended and presented at the BTAC Common Law Holders meeting. The one-hour timeslot did not allow for taking feedback in relation to EPs but the Common Law Holders meeting were made aware that Woodside had been attempting to meet since January, and had agreed to pay for reasonable consultation costs as well as fund the Sea Country mapping but that these offers had not been taken up.
- **(2)** On 7 December 2023, Woodside emailed BSA requesting a response to the email of 18 November 2023 in relation to their request and Woodside's response on indemnification. Woodside noted that the framework agreement has not been finalised to date but would include the following:
 - Agreement between parties to consult in a meaningful and genuine manner.
 - Procedure Woodside will follow when a submission requires consultation, which would include notification and an invitation to meet.
 - Initial and ongoing consultation about activities.
 - How Thalanyji provides feedback and how to represent that feedback in submissions.
 - Agreed schedule of rates.
 - How to manage the outputs of consultation.
 - Woodside requested to meet to progress discussions with BTAC.

- **(4) (5)** On 7 December 2023, Woodside emailed BTAC forwarding correspondence received from and correspondence sent to the previous CEO dated 20 February 2023 and dated 17 March 2023, confirming support for recording sea country values and confirming support for ethnographic assessment. Woodside confirmed support to pay reasonable costs for ethnographic support for mapping and recording sea country values. Woodside requested to be contacted to enable progress on the above matters.
- **(4)** On 7 December 2023, BTAC emailed Woodside suggesting a meeting on week of 15 January 2024 to discuss sea country mapping.
- **(4) (2)** On 12 December 2023, Woodside emailed BTAC via BSA noting a planned meeting on week of 15 January 2024 to discuss sea country mapping, and potentially the framework for consultation and current status of EPs.
- **(4)** On 12 December 2023, BTAC emailed Woodside with a proposed meeting time and date for the sea country mapping planning meeting.
- On 12 December 2023, BTAC emailed Woodside requesting a copy of the presentation to the Common Law Holders meeting.
- On 15 December 2023, BTAC emailed Woodside again requesting a copy of the presentation to the Common Law Holders meeting.
- On 18 December 2023, Woodside emailed BTAC a copy of the presentation as requested.
- **(4)** On 19 December 2023, Woodside emailed BTAC confirming the date of the sea country mapping planning meeting.
- **(4)** On 9 January 2024, Woodside emailed BTAC seeking to confirm the time and location of the sea country mapping planning meeting.
- On 16 January 2024, BTAC emailed Woodside confirming meeting of 17 January 2024 with BTAC and requesting the names of Woodside attendees.
- On 16 January 2024, Woodside emailed BTAC with the names of Woodside attendees, as requested.
- On 17 January 2024, Woodside met with BTAC and discussed (among other things):
 - **(4)** Sea country mapping, confirming:
 - BTAC choose their own experts for ethnographic survey.
 - BTAC retain intellectual property of material and may request information not be provided.
 - Fieldwork required with a preferred commencement in April, with Woodside personnel in attendance as guided by BTAC.
 - BTAC prefer early notice on EPs, if possible.
 - **(8)** BTAC keen on employment/training opportunities and opportunities for rangers.
 - BTAC to form a committee for consultation on EPs.
- **(8)** On 17 January 2024, Woodside emailed BTAC information about training pathways as discussed at the meeting with BTAC on 17 January 2024.
- **(4)** On 8 February 2024, Woodside emailed BTAC following up on a quote for the sea country mapping.
- **(4)** On 8 February 2024, BTAC emailed Woodside confirming they were preparing a quote.
- **(4)** On 8 February 2024, Woodside emailed BTAC thanking them for the update.

Ongoing Relationship Building

Woodside will continue to pursue an ongoing two-way relationship with BTAC including the development of a Collaboration Agreement focused on future opportunities to work together.

Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>Through consultation relevant to the activity, BTAC has:</p> <p>(1) Stated that the activity may intersect with offshore areas in which BTAC and Thalanyji people undertake activities and assert interests and values.</p> <p>(2) Requested Woodside supports BTAC in consultation via a consultation framework</p> <p>(3) Expressed desire to be involved in local emergency response capability</p> <p>(4) Through consultation on other activities, sought support from Woodside to enable BTAC to define and articulate its values on Sea Country in a manner that could be more clearly understood by the offshore sector, government, and the community.</p> <p>(5) Through consultation on other activities, BTAC has stated their cultural obligation to care for environmental values of sea country.</p> <p>(6) BTAC does not endorse any consultation without appropriate cost recovery.</p> <p>(7) BTAC invited Woodside to present at the BTAC Common Law Holders meeting.</p> <p>(8) BTAC seeks support for employment/training opportunities and opportunities for rangers.</p>	<p>(1) Woodside recognises BTAC and Thalanyji people as undertaking activities and asserting interests and values in the EMBA for this activity. Woodside has consulted with BTAC as a relevant organisation.</p> <p>(2) BTAC has been advised of Woodside’s commitment to further feedback in accordance with Woodside’s approach to ongoing two-way consultation (see Section 5.6). This will be facilitated via the collaboration agreement being negotiated by Woodside and BTAC that will include support for recording and articulation of Sea Country values and aligns with Woodside’s Program of Ongoing Engagement referenced as Appendix G in this EP.</p> <p>(3) The Program of Ongoing Engagement with Traditional Custodians (Appendix G) contemplates capacity building for Indigenous oil spill response capability. Woodside will work with BTAC to address this claim through the planned consultation framework with BTAC.</p> <p>(4) On 31 July 2023 Woodside issued letters offering support to BTAC in defining and articulating sea country values. Woodside has since followed up on those letters multiple times and is progressing with BTAC to commence this activity. BTAC has been provided reasonable time and sufficient information to provide information regarding sea country values. In the absence of this activity taking place, Woodside has update the EP to include a review of publicly available literature relevant to the Thalanyji people (Section 4.9.1.6), and a further section on details of Thalanyji sea country (Section 4.9.1.8)</p> <p>(5) Woodside has updated Section 4.9.1 of the EP to record the cultural obligation to care for sea country.</p> <p>(6) BTAC’s letter of 14 September 2023 confirms that BTAC is amenable to progressing a consultation agreement with Woodside, for ongoing engagement and consultation. Woodside has responded to this letter and will continue to progress towards this agreement. Woodside continues to offer support for recording of cultural values, as per item (4) above.</p> <p>(7) Woodside presented at the Common Law Holders meeting, as outlined in the Record of Consultation above.</p> <p>(8) Woodside has provided details about training pathways to BTAC. Woodside support for ranger programs are contemplated in the Program of Ongoing Engagement with Traditional Custodians, Appendix G in this EP.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside</p>	<p>(1) BTAC have been consulted as a relevant organisation for this activity.</p> <p>(2) Woodside will implement a program to actively support Traditional Custodians’ capacity for ongoing engagement and consultation on environment plans for the purpose of avoiding impacts to cultural heritage values, referenced as Appendix G in this EP. BTAC’s confirmation that it seeks an agreement for ongoing consultation is aligned with the Program set out in Appendix G.</p> <p>(3) Woodside’s Program of Ongoing Engagement with Traditional Custodians, Appendix G in this EP, includes support for capacity building for Indigenous oil spill response capability.</p> <p>(4) BTAC has been provided reasonable time and sufficient information to provide information regarding sea country values. In the absence of sea country mapping, Woodside has updated the EP to include a review of publicly available literature relevant to the Thalanyji people (Section 4.9.1.6), and a further section on details of Thalanyji sea country (Section 4.9.1.8). Should the sea country mapping activity take place, any information arising from it will be assessed and, where appropriate,</p>

	<p>will apply its Management of Change and Revision process (see Section 6.2.3.1 of the EP).</p>	<p>Woodside will apply its Management of Change and Revision process (see Section 6.2.3.1 of the EP).</p> <p>(5) Woodside has considered BTACs feedback and updated Section 4.9.1 of the EP to record their cultural obligation to care for environmental values of sea country.</p> <p>(6) Woodside will implement a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans for the purpose of avoiding impacts to cultural heritage values, referenced as Appendix G in this EP. BTAC's confirmation that it seeks an agreement for ongoing consultation is aligned with this Program.</p> <p>(7) The Record of Consultation has been updated to reflect the outcomes of Woodside's presentation to the Common Law Holders meeting.</p> <p>(8) Woodside's Program of Ongoing Engagement with Traditional Custodians, Appendix G in this EP, includes support for ranger programs.</p>
<p>Yinggarda Aboriginal Corporation (YAC)</p> <p>YAC is established under the Native Title Act 1993 by the Yinggarda people to represent the Yinggarda people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.</p>		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with YAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on YAC's preferred method of consultation. This resulted in a face-to-face meeting being coordinated at the location of YAC's choosing, with YAC nominated representatives. This meeting included information that was readily accessible and appropriate.
- Consultation Information Sheet was publicly available on the Woodside website since June 2023.
- Provided Consultation Information Sheets and Consultation Summary Sheets to YAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity in a digestible, plain English format.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Confirmed the purpose of consultation and set out in detail what was being sought through consultation.
- Asked for the consultation and information sheets to be distributed to members and individuals.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan".
- Provided response to questions asked about the activity through consultation. Through these questions, YAC has displayed an understanding of the activities under this Environment Plan.
- Advised that YAC could request the particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (7 June 2023) advising of the proposed activities and requesting comments or feedback.
- Consultation information provided to YAC on 19 June 2023 based on their function, interest, and activities.
- Woodside has addressed and responded to YAC over 7 months.

Woodside asked YAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside has provided a reasonable opportunity for input since June 2023 and a genuine two-way dialogue has occurred via meetings and written exchanges to further understand the environment in which the activity will take place. YAC has engaged with the detail of the activity asking related questions. The details of these engagements are described in the consultation summary below.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 6.2.3.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on YAC's functions, interests or activities.

Summary of information provided and record of consultation:

- The Yinggarda Aboriginal Corporation's nominated representative is Gumala Aboriginal Corporation (GAC).

- On 19 June 2023, Woodside emailed YAC the Summary Information Sheet – Macedon Operations (Record of Consultation – 1.32) and requested YAC’s feedback (Record of Consultation – 1.30.)
- On 20 June 2023, Woodside emailed YAC correcting the due date for feedback to be received.
- On 21 June 2023, YAC emailed Woodside proposing a meeting with the YAC Board on 5 July 2023, to present on Environment Plans for other activities.
- On 21 June 2023, Woodside emailed YAC confirming attendance on 5 July 2023 and offered to fund reasonable costs associated with engaging an independent expert.
- During the period 22 June 2023 to 4 July 2023, Woodside and YAC were in correspondence regarding planning and agenda for the 5 July 2023 meeting. This correspondence did not specifically reference the Macedon Operations EP.
- On 5 July 2023, Woodside presented at a meeting with YAC on a range of activities and Environment Plans, including the Macedon Operations Environment Plan.
- At the 5 July 2023 meeting, YAC asked the following questions and provided feedback:
 - **(1)** Whether Woodside had undertaken environmental studies and whether these studies are ongoing;
 - **(2)** What environmental monitoring happened after the EPs were approved;
- Woodside responded that numerous environmental studies are undertaken, and they form part of the EPs, some information about ongoing commitments and research studies are available on Woodside’s website. Woodside notes that they commit to ongoing consultation with YAC and will take feedback if any new information in relation to risks comes to light.
- **(3)** YAC expressed sadness at the potential for environmental impact including plants and animals.
- Woodside responded that potential impact from unplanned activities is very low and that they had not had a serious unplanned environmental impact in over 30 years. Woodside also responded to specific examples such as vessel collision with migratory species (e.g., whales) and stated that it would comply with regulatory requirements for interaction with marine fauna. Woodside would also adhere to defined observation and exclusion zones and implement adaptive management where required.
- **(4)** YAC expressed interest in a ranger program to assist with environmental management and monitoring
- On 5 July 2023, YAC emailed Woodside seeking a copy of the presentation from the 5 July 2023 meeting.
- On 6 July 2023, Woodside emailed YAC the presentation.
- On 17 July 2023, Woodside emailed YAC a letter summarising the 5 July 2023 meeting and responding to issues raised at the meeting.
- On 19 July 2023, Woodside emailed YAC NOPSEMA’s Brochure and Guideline on Consultation and Draft Policy for managing gender-restricted information, and asking YAC to advise Woodside if there are any other Traditional Custodian groups or individuals with whom Woodside should consult.
- On 19 July 2023, YAC emailed Woodside thanking them for NOPSEMA’s guidelines.
- On 26 July 2023, Woodside emailed YAC a proposed Program of Ongoing Engagement with Traditional Custodians
- On 2 August 2023, YAC lawyer Banks-Smith and Associates (BSA) emailed Woodside to indicate that they had been placed on a retainer by YAC to advise on NOPSEMA matters.
- On 3 August 2023, Woodside emailed YAC and BSA thanking them for this information.
- On 4 August 2023, YAC emailed Woodside noting that:
 - YAC are willing to formally engage with Woodside on future NOPSEMA consultation.
 - **(5)** Woodside is invited to submit a consultation agreement for YAC’s consideration and laying out desired content.
 - **(6)** Resourcing would need to be provided by Woodside to facilitate this.

<ul style="list-style-type: none"> • On 10 August 2023, YAC emailed Woodside in relation to another activity, noting that: <ul style="list-style-type: none"> ○ Woodside had provided a considerable volume of videos, complex materials, and presentations to the YAC board since 1 July 2023, covering multiple proposed activities. The YAC board is seeking advice about different documents and considering cultural and spiritual impacts of proposed activities. ○ The YAC board has not yet concluded its investigations and provide feedback, and if Woodside has advanced plans with NOPSEMA it has different view of the role and capacity of TOs in the process as clarified by Santos v Tipakalippa. ○ (6) (7) Requesting appropriate resources and time for YAC board to allow them to form a considered view, as requested on 4 August 2023. ○ YAC board intends to raise matters at a community meeting in Carnarvon in September, including Aboriginal community members who are not YAC members. • On 11 August 2023, YAC emailed Woodside confirming formal resolution by the Board to retain their lawyer (Banks-Smith & Associates (BSA)) to engage on NOPSEMA matters and providing a copy of the Board Resolution. • On 11 August 2023, Woodside emailed YAC via BSA acknowledging the request for a draft consultation agreement, noting it would be attended to within a week or so and confirming the process for onboarding to receive payments. • On 14 August 2023, YAC via BSA emailed Woodside stating that it looked forward to receiving the consultation agreement for consideration and agreeing arrangements for provision of resourcing. • On 13 September 2023, Woodside emailed YAC via BSA in regard to other EPs. • On 13 September 2023, YAC via BSA responded to Woodside advising that in the absence of a draft consultation agreement they were unable to respond in substance to the matters raised. • (5) On 14 September 2023, Woodside emailed YAC via BSA with a proposed consultation framework. • On 14 September 2023, YAC via BSA confirmed receipt of the consultation framework and advised they would seek direction from the YAC board. • On 13 October 2023, YAC via BSA emailed Woodside regarding details of the consultation framework. • On 2 November 2023, Woodside emailed YAC via BSA responding to the 13 October 2023 email. • On 3 November 2023, YAC emailed Woodside to update on meeting with the BTAC board, acknowledged that Woodside would present to BTAC members on 27 November and raised opportunity to discuss issues related to BTAC's NOPSEMA consultation indemnity request. • On 18 November 2023, Woodside emailed YAC via BSA further details regarding the consultation framework, and responding regarding the consultation indemnity request.. 		
Summary of Feedback, Objection or Claim	Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>Woodside attended a meeting with the Board of YAC on 5 July 2023.</p> <p>YAC stated that plants, animals and the environment are inexorably linked to their culture and asked for the following information:</p>	<ul style="list-style-type: none"> (1) Woodside responded that Woodside has undertaken numerous environmental studies that formed part of the EP and has an ongoing commitment to environmental studies and research, some of which are set out on Woodside's website. (2) Woodside responded that environmental monitoring is an ongoing activity, and the nature and timing of environmental monitoring depends on the nature, possible consequences, and likelihood of the environmental risks. Importantly, Woodside commits to ongoing consultation with YAC and will be able to take feedback if any new information in relation to risks comes to light. 	<ul style="list-style-type: none"> (1) Woodside considers the measures and controls described within this EP address YAC's feedback regarding environmental studies. (2) Woodside considers the measures addresses YAC's feedback regarding ongoing environmental monitoring.

<p>(1) Whether Woodside has undertaken environmental studies and whether these studies are ongoing.</p> <p>(2) What environmental monitoring happens after EPs are approved.</p> <p>YAC also expressed the following:</p> <p>(3) Sadness at the potential for environmental impact</p> <p>(4) Ranger programs could assist with environmental management and monitoring.</p> <p>Woodside responded to YAC's comments and questions within the meeting.</p> <p>(5) YAC seeks a consultation framework</p> <p>(6) YAC requested appropriate resources to enable them to participate in consultation</p> <p>(7) YAC requested appropriate time for consultation</p>	<p>(3) Woodside explained that the potential impact from the unplanned activities is very low. For example, Woodside has been operating in the region for over 30 years and has not had a serious unplanned environmental event in that time. Importantly, if there is an unplanned event, the entire EMBA as shown on the maps will not be impacted. The area of the EMBA will be somewhere within the mapped area depending on factors such as wind, current and tide.</p> <p>(4) Woodside confirmed that the opportunities associated with rangers will be addressed as part of our ongoing engagement. The capacity building contemplated for ranger programs is described in the proposed Program of Ongoing Engagement with Traditional Custodians in Appendix G in this EP.</p> <p>(5) Woodside has confirmed and accepts that YAC is seeking to establish a framework agreement for the purposes of ongoing consultation with Woodside. Separate from consultation under regulation 25, Woodside will establish a framework agreement with YAC. The agreement will be used to frame ongoing consultation. Sufficient information to allow informed assessment has already been provided by other means, including summary sheets developed by Indigenous staff, a face-to-face meeting with appropriate material (e.g. maps) and project team attendance allowing opportunity to ask questions and seek further understanding.</p> <p>(6) Woodside has offered to fund additional resources to support YAC to participate in consultation (e.g. 21 June 2023 email).</p> <p>(7) Woodside has provided YAC reasonable time to participate in consultation since June 2023.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 6.2.3.1 of the EP).</p>	<p>(3) Woodside considers the measures and controls described within this EP address YAC's feedback regarding potential environmental impacts.</p> <p>(4) Woodside's proposed Program of Ongoing Engagement with Traditional Custodians, referenced in Appendix G in this EP, contemplates capacity building associated with ranger programs.</p> <p>(5) Woodside will implement a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans for the purpose of avoiding impacts to cultural heritage values, outlined in Appendix G in this EP.</p> <p>(6) Not applicable.</p> <p>(7) Not applicable.</p>
<p>Wirrawandi Aboriginal Corporation (WAC)</p> <p>WAC is established under the Native Title Act 1993 by the Mardudhunera and Yaburara people to represent the Mardudhunera and Yaburara people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.</p>		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with WAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on WAC's preferred method of consultation. This resulted in a face-to-face meeting being coordinated at a location of WAC's choosing. This meeting included information that was readily accessible and appropriate.
- Consultation Information Sheet was publicly available on the Woodside website since June 2023.
- Provided Consultation Information Sheets and Consultation Summary Sheets to WAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity in a digestible, plain English format.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Confirmed the purpose of consultation and set out in detail what was being sought through consultation.
- Asked for the consultation and information sheets to be distributed to members and individuals.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan".
- Provided response to questions asked about the activity through consultation. Through these questions, WAC have displayed an understanding of the activities under this Environment Plan.
- Advised that WAC could request the particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations)

Reasonable Period:

- Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (7 June 2023) advising of the proposed activities and requesting comments or feedback.
- Consultation information provided to WAC on 20 June 2023 based on their function, interest, and activities.
- Woodside has addressed and responded to WAC over 7 months.
- Woodside asked WAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.
- Woodside has provided a reasonable opportunity for input since June 2023 and a genuine two-way dialogue has occurred via meetings and written exchanges to further understand the environment in which the activity will take place. WAC has engaged with the detail of the activity asking related questions. The details of these engagements are described in the consultation summary below.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 6.2.3.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on WAC's functions, interests or activities.

Summary of information provided and record of consultation:

- On 20 June 2023, Woodside emailed WAC the Summary Information Sheet – Macedon Operations (Record of Consultation – 1.32) and requested WAC's feedback (Record of Consultation – 1.39.)

- On 20 June 2023, WAC emailed Woodside to suggest that Woodside schedule and fund a presentation to WAC to explain the projects and the potential impact areas that may be affected.
- On 20 June 2023, Woodside responded to WAC confirming that Woodside would fund this meeting and that Woodside would be in touch to plan the logistics of the meeting.
- On 21 June 2023, WAC emailed Woodside advising they would liaise the next day.
- On 22 June 2023, Woodside emailed WAC seeking clarification of meeting attendees, time and date.
- On 22 June 2023, WAC emailed Woodside advising they would discuss with the WAC General Manager and Board members.
- On 28 June 2023, WAC emailed Woodside a proposed meeting date and location and querying whether Woodside would fund travel for board members.
- On 28 June 2023, Woodside emailed WAC confirming the meeting date and confirming Woodside would fund travel.
- On 28 June 2023, WAC emailed Woodside thanking them for their response and advising expected number of people requiring travel to be funded.
- On 28 June 2023, Woodside emailed WAC agreeing to the travel funding request.
- On 6 July 2023, Woodside emailed WAC requesting the meeting time.
- On 18 July 2023, Woodside emailed WAC NOPSEMA's Brochure and Guideline on Consultation and Draft Policy for managing gender-restricted information, and asking WAC to advise Woodside if there are any other Traditional Custodian groups or individuals with whom Woodside should consult.
- **(1)** On 19 July 2023, Woodside presented to the WAC board regarding the Macedon Operations Environment Plan, and other activities. At the meeting, WAC asked
 - In the event of a hydrocarbon release, would rangers be involved
 - What happens in the event of an earthquake
 - If Woodside have maps showing the EMBA in relation to their Native Title claim
 - What the difference between the State EMBA and Commonwealth EMBA is
- On 20 July 2023, Woodside emailed WAC a copy of the presentation of 19 July and advising Woodside would respond on the actions allocated in the meeting.
- **(2)** On 20 July 2023, WAC emailed Woodside thanking them for the meeting. WAC advised they would provide a formal response via the General Manager. WAC requested a list of the activities where WAC might be a relevant person for consultation, and a set of maps depicting EMBA's for the activities discussed at the meeting.
- On 26 July 2023, Woodside emailed WAC the proposed Program of Ongoing Engagement with Traditional Custodians.
- **(2)** On 10 August 2023, Woodside emailed WAC in response to the email of 20 July, with the list of activities for consultation with WAC, and maps of the EMBA's.
- On 10 August 2023, WAC emailed Woodside thanking them for the information, requesting further State waters EMBA's for other activities, and advising that from a from YM traditional owners' point of view, the distinction between Cth/State waters and EMBA's is artificial and arbitrary.
- On 15 August 2023, Woodside emailed WAC acknowledging that the Commonwealth and State waters distinction is not compatible with the cultural lens of Traditional Owners, and clarifying why the Macedon activity has a State waters EMBA.
- On 15 August 2023, WAC emailed Woodside thanking them for the clarification.
- **(3)** On 31 August 2023, WAC emailed Woodside proposing a framework agreement to provide a streamlined, formalised approach to consultation between WAC and Woodside.
- **(3)** On 11 September 2023, WAC emailed Woodside with a copy of the letter of 31 August 2023, and advising that WAC does not object to Woodside progressing environment plans for the activities outlined on the proviso that Woodside and WAC enter into a framework agreement to provide for ongoing meaningful consultation with

<p>WAC and YM members in relation to activities the subject of EPs, as outlined in the attached letter on terms suitable to both parties within a reasonable period (nominally within the next 2-3 months).</p> <ul style="list-style-type: none"> On 12 September 2023, Woodside emailed WAC confirming receipt of the email of 11 September 2023. On 28 September 2023, Woodside emailed WAC informing them who their focal point is. On 3 October 2023, WAC emailed Woodside requesting a catch up. On 3 October 2023, Woodside emailed WAC suggesting dates during October to meet up. On 3 October 2023, WAC emailed Woodside confirming availability on suggested dates. On 3 October 2023, Woodside emailed WAC confirming dates and meeting location. On 20 October 2023, Woodside and WAC met in Perth. The meeting was held with the new CEO and Chairperson to discuss current EPs and how parties intend to support each other through the process. Confirmed WAC's preferred EP consultation process and discussed recent correspondence between previous CEO and Woodside. WAC confirmed they are going to address all open EPs as a matter of priority. Noted the WAC AGM is taking place in approximately 10 days. On 19 December 2023, Woodside emailed WAC offering to provide any further information or meetings that they may require with regards to EPs. <p>Quarterly Heritage Meetings:</p> <ul style="list-style-type: none"> Woodside convenes a quarterly meeting of Traditional Custodian representatives from the Representative Aboriginal Corporations involved in historical native title claims over the Burrup Peninsula, including WAC. Individual attendees are nominated by their representative Aboriginal Corporations. These meetings are summarised separately in this table. Copies of slides are made available to representative Aboriginal Corporations for the general awareness of members who were not able to attend individual meetings. 		
Summary of Feedback, Objection or Claim	Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>(1) During face-to-face engagement with the WAC board, WAC requested further information on topics related to this proposed activity which was responded to during the meeting:</p> <ul style="list-style-type: none"> Emergency preparedness and engagement of rangers for spill response What happens to equipment in an earthquake The difference between the State and Commonwealth EMBA's <p>(2) WAC requested details of upcoming activities where WAC might be a relevant person, and maps of the</p>	<p>(1) Woodside responded to WAC's questions during the meeting and no further information was requested.</p> <p>(2) Woodside provided a list of upcoming activities and the EMBA maps as requested by WAC.</p> <p>(3) Woodside has confirmed and accepts that WAC is seeking to establish a framework agreement for the purposes of ongoing consultation with Woodside. Woodside notes that WAC does not object to Woodside progressing environment plans for the activities outlined on this basis. Separate from consultation under regulation 25, Woodside will establish a framework agreement with WAC. The agreement will be used to frame ongoing consultation. Sufficient information to allow informed assessment has already been provided by other means, including summary sheets developed by Indigenous staff, a face-to-face meeting with appropriate material (e.g. maps) and project team attendance allowing opportunity to ask questions and seek further understanding.</p>	<p>(1) Not required</p> <p>(2) Not required</p> <p>(3) Woodside will implement a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans for the purpose of avoiding impacts to cultural heritage values, outlined in Appendix G in this EP.</p>

<p>EMBA's discussed at the previous meeting.</p> <p>(3) WAC expressed that it does not object to Woodside progressing the proposed activity on the provision that Woodside and WAC enter into a framework agreement to provide for ongoing meaningful consultation.</p>	<p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 6.2.3.1 of the EP).</p>	
<p>Robe River Kuruma Aboriginal Corporation</p> <p>RRKAC is established under the Native Title Act 1993 by the Robe River Kuruma people to represent the Robe River Kuruma people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.</p>		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with RRKAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Consultation Information Sheet was publicly available on the Woodside website since June 2023.
- Provided Consultation Information Sheets and Consultation Summary Sheets developed by Indigenous staff to RRKAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Confirmed the purpose of consultation and set out in detail what was being sought through consultation.
- Asked for the consultation and information sheets to be distributed to members and individuals.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan".
- Advised that RRKAC could request the particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (7 June 2023) advising of the proposed activities and requesting comments or feedback.
- Consultation information provided to RRKAC on 20 June 2023 based on their function, interest, and activities.
- Woodside has addressed and responded to RRKAC over 7 months.
- Woodside asked RRKAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 6.2.3.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on RRKAC's functions, interests or activities.

Summary of information provided and record of consultation:

- On 20 June 2023, Woodside emailed RRKAC the Summary Information Sheet – Macedon Operations (Record of Consultation – 1.32) and requested RRKAC's feedback (Record of Consultation – 1.40.)
- On 18 July 2023, Woodside emailed RRKAC NOPSEMA's Brochure and Guideline on Consultation and Draft Policy for managing gender-restricted information, and asking RRKAC to advise Woodside if there are any other Traditional Custodian groups or individuals with whom Woodside should consult.
- On 26 July 2023, Woodside emailed RRKAC the proposed Program of Ongoing Engagement with Traditional Custodians.
- **(1)** On 11 August 2023, RRKAC emailed Woodside in regards to another activity (about which Woodside had emailed RRKAC on 9 August 2023), noting that the YM claim extends almost 10km out to sea and along the Jajiwurra estuary. RRKAC noted the interests of their Heritage Advisory Committee and Jajiwurra Rangers, including
 - Environmental monitoring training and packages of work;

<ul style="list-style-type: none"> ○ Provision of the results of environmental monitoring activities; ○ Financial support to fund marine scientists to interpret monitoring data for RRRKAC HAC; ○ Consultation with RRRKAC in the event of a catastrophic event (such as an oil spill) or any other unforeseen consequences (such as longer-range disturbances to distribution of marine animals due to underwater seismic activity) – including inclusion of Jajiwurra Rangers in operational works to remedy these situations. <ul style="list-style-type: none"> • On 14 August 2023, Woodside emailed RRRKAC asking for a time and date to meet to talk about training opportunities and Jajiwurra Rangers. • On 14 August 2023, RRRKAC emailed Woodside agreeing to a meeting and indicating they would arrange a suitable time for a discussion. • On 11 September 2023, Woodside emailed RRRKAC noting a planned meeting in October to discuss Jajiwurra Rangers, and following up on Environment Plans for other activities. • (2) On 15 September 2023, RRRKAC emailed Woodside advising they have noted Woodside’s plans, and that they aren’t resourced to adequately respond, and would require Woodside to fund additional resources. • On 18 September 2023, Woodside sent two emails to RRRKAC advising that Woodside would provide funding for consultation, and requesting RRRKAC submit a quote. • On 14 November 2023, Woodside sent an email to RRRKAC seeking to meet and discuss what support RRRKAC may need in order to fully engage in consultation [not in relation to any specific EP]. • On 14 November 2023, RRRKAC responded to Woodside advising that RRRKAC would line up an appropriate team member to respond to Woodside’s request. • On 16 November 2023, Woodside responded to RRRKAC, noting that Woodside looked forward to hearing from RRRKAC. • On 19 December 2023, Woodside emailed RRRKAC following up on any further support that RRRKAC may need. 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>(1) RRRKAC have noted the interests of their Heritage Advisory Committee and their interests in upskilling and training their Jajiwurra Rangers including:</p> <ul style="list-style-type: none"> ○ Environmental monitoring training and packages of work; ○ Provision of the results of environmental monitoring activities; ○ Financial support to fund marine scientists to interpret monitoring data for RRRKAC Heritage Advisory Committee; ○ Consultation with RRRKAC in the event of a catastrophic event (such as an oil spill) or any other unforeseen consequences (such as longer-range disturbances to 	<p>(1) The measures outlined in the proposed Program of Ongoing Engagement with Traditional Custodians in Appendix G of this EP include establishing support for Indigenous ranger programs via social investment, establishing support for programs identified by the Traditional Custodians as important to them and as agreed by Woodside. The Oil Pollution First Strike Response Plan in Appendix H includes notifications to relevant stakeholders should an incident occur.</p> <p>(2) Woodside has advised that Woodside can provided funds to support consultation and requested that RRRKAC provide a quote to enable Woodside to fund consultation activities. To date, the offer of support has not been taken up. As outlined in the consultation summary above, sufficient information and a reasonable period had been provided to demonstrate that consultation for the purpose of regulation 25 is complete. Any further engagement with and support for RRRKAC will be for the purpose of ongoing consultation.</p> <p>Woodside continues to engage RRRKAC in relation to the proposed activity.</p>	<p>(1) Woodside’s proposed Program of Ongoing Engagement with Traditional Custodians referenced as Appendix G in this EP includes support for Indigenous ranger programs, noted as an area of interested by RRRKAC.</p> <p>(2) As identified in Section 6.10.3.1 of this EP, Woodside will continue to consult following acceptance of the EP, as required by the implementation strategy as set out in regulation 2(9) of the Environment Regulations and continue to progress with establishing a Framework Agreement as part of Woodside’s Program of Ongoing Engagement with Traditional Custodians</p>

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<p>distribution of marine animals due to underwater seismic activity) – including inclusion of Jajiwurra Rangers in operational works to remedy these situations.</p> <p>(2) RRKAC noted in response to a request for consultation on an EP for another activity that they are insufficiently resourced to fully engage and respond regarding EPs.</p>	<p>Woodside has:</p> <ul style="list-style-type: none"> • Sought RRKAC’s direction on their preferred method of consultation. • Set out in detail what is being sought through consultation. • Asked RRKAC to distribute the request for consultation and information sheets to their members. • Asked whether RRKAC was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. • Provided RRKAC with NOPSEMA’s guidelines and brochure on consultation. <p>RRKAC has had a reasonable opportunity to participate in consultation. RRKAC have noted the limitations on their resources, which Woodside will address via the proposed Program of Ongoing Engagement with Traditional Custodians. Woodside has confirmed it will be providing funding for consultation activities.</p> <p>Consultation with RRKAC has not identified any other groups or individuals relevant to communally held functions, activities or interests. RRKAC have been provided with reasonable time to respond with this information since the email from Woodside of 18 July specifically requesting this information, but no response to this request has been received.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 6.2.3.1 of the EP).</p>	<p>(Appendix G). This includes addressing RRKAC’s resourcing issue for ongoing consultation via a Framework Agreement.</p>
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Native Title Representative Bodies

Yamatji Marlpa Aboriginal Corporation (YMAC)
 YMAC is the Native Title Representative Body for the Yamatji and Pilbara regions of Western Australia. As such, they are not a Prescribed or Registered Native Title Body Corporate but exist to assist native title claimants and holders.

<p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • YMAC is the representative for NTGAC. Correspondence with NTGAC via YMAC is captured in the NTGAC section above. • (1) On 12 June 2023, YMAC emailed Woodside on behalf of itself and its clients. The email attached: <ul style="list-style-type: none"> ○ A proposal to fund in-house expertise to support consultation and administration of the consultation framework ○ A draft consultation framework • On 12 June 2023, Woodside response to YMAC by email, thanking them for the documents and that Woodside would respond shortly. • On 25 July 2023, Woodside emailed YMAC: <ul style="list-style-type: none"> ○ Agreeing in principle to the draft consultation framework and funding proposal but seeking further discussion on details; ○ Attaching Woodside’s Program for Ongoing Engagement with Traditional Custodians. 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>(1) YMAC has provided feedback that it is seeking an industry funded position to support consultations for this and other activities and has provided a draft consultation framework to assist the consultation process.</p>	<p>(1) Woodside has assessed the Program of Ongoing Engagement with Traditional Custodians will support ongoing consultation with YMAC and/or the groups it represents. This can address appropriate support for resourcing, separate from consultation under regulation 25. Sufficient information to allow informed assessment has already been provided by other means.</p> <p>YMAC is the Native Title Representative Body for the Yamatji and Pilbara regions of Western Australia. As such, they are not a Prescribed or Registered Native Title Body Corporate representing the cultural rights of a Traditional Custodian Community but exist to assist native title claimants and holders.</p> <p>Woodside has previously consulted with YMAC in relation to its facilitation and coordination function as a Native Title Representative Body under applicable federal legislation, and YMAC has responded that it does not intend to provide substantive comment on the content of EPs.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (refer to Section 6.2.3.1 of the EP)</p>	<p>(1) Woodside is implementing a program to actively support Traditional Custodians’ capacity for ongoing engagement and consultation on environment plans. This is described further in the Program of Ongoing Engagement with Traditional Custodians, referenced as Appendix G in this EP.</p>
<p>Historical cultural heritage groups or organisations</p>		
<p>Western Australian Museum</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Western Australian Museum for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Western Australian Museum on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has addressed and responded to Western Australian Museum over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Western Australian Museum advising of the proposed activity (Record of Consultation, reference 1.18), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.16). • On 26 July 2023, Western Australian Museum sent a letter to Woodside thanking it for informing of the company’s proposal to submit the revised Macedon Operations EP. WAM advised that Woodside is required to contact DCCEEW who would engage the WA Museum as its delegate if deemed necessary. WAM also: <ul style="list-style-type: none"> ○ (1) advised that its feedback should be reviewed in conjunction with the Commonwealth Government’s ‘Underwater Cultural Heritage (UCH) Guidance for Offshore Developments’ regarding UCH assessments, the potential for finding as yet unlocated UCH and proponents’ legal responsibilities and Duty of Care requirements. (https://www.dcceew.gov.au/parks-heritage/heritage/publications/underwater-heritage-guidance-offshore) ○ (2) recommended that a UCH survey is carried out by a qualified and experienced maritime archaeologist(s). This may initially be a desktop survey based on existing data, if the resolution and coverage is sufficient. ○ (3) asked Woodside to refer to the draft Guidelines for Working in the Near and Offshore Environment to Protect Underwater Cultural Heritage ○ (4) asked Woodside to consult with Traditional Owners where appropriate ○ (5) asked Woodside to provide a thorough UCH desktop assessment copy when complete • On 7 August 2023, Woodside emailed WAM thanking it for its letter and responded that: <ul style="list-style-type: none"> ○ Woodside has included the following control in the proposed EP: <ul style="list-style-type: none"> Prior to seabed disturbance activities Woodside shall undertake a review of existing survey data by a suitably qualified marine archaeologist to undertake a UCH Desktop Assessment to identify Aboriginal and non-Aboriginal UCH within the project area. ○ Woodside consults with Traditional Owners in the course of preparing Environment Plans and also engages in ongoing consultation subsequent to the approval of Environment Plans. The Traditional Owner identification and consultation methodologies and outcomes are described in the Environment Plan. No new controls have been identified in response to this item. 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan

<p>WAM has provided feedback regarding:</p> <p>(1) Its recommendation for a UCH survey,</p> <p>(2) (5) UCH survey is carried out by a qualified and experienced maritime archaeologist and provide UCH desktop assessment copy when complete.</p> <p>(3) draft guidelines for working in near and offshore environment.</p> <p>(4) Consult with Traditional Owners.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>WAM's feedback has been assessed on merit as it applies to this EP and a summary of responses has been provided to address specific claims and objections raised on the proposed activity, where appropriate.</p> <p>(1,2,3,5) Woodside advised given the extensive surveys that have been carried out in and around the Operational Area, planned pre-installation surveys as described in the EP and low likelihood of UCH presence in the Operational Area(s), a dedicated UCH survey by a qualified maritime archaeologist is not required.</p> <p>(4) Woodside advised it consults with Traditional Owners in the course of preparing Environment Plans and also engages in ongoing consultation subsequent to the approval of Environment Plans.</p> <p>Woodside responded to the DPLH's recommendation to notify WAM in the event of a maritime archaeological incident.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>(1,2,4,5) The Environment Plan demonstrates that there are no known underwater heritage sites or shipwrecks within the Petroleum Activities Area and identifies that there are no credible impacts to the values of any underwater heritage or shipwrecks as a result of planned activities (Section 4.9.1).</p> <p>(3) While impacts to underwater heritage sites or shipwrecks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.6 of the EP.</p> <p>Woodside considers the measures and controls described are appropriate.</p> <p>No additional measures or controls are required.</p>
<p>Local government and community representative groups or organisations</p>		
<p>Shire of Ashburton</p>		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Ashburton for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since June 2023
- Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback.
- Consultation Information provided to Shire of Ashburton on 28 June 2023 based on their function, interest and activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has addressed and responded to Shire of Ashburton over a 7 month period.

Summary of information provided and record of consultation:

- On 28 June 2023, Woodside emailed Shire of Ashburton advising of the proposed activity (Record of Consultation, reference 1.19), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.17).
- On 13 July 2023, Shire of Ashburton sent a letter to Woodside noting that the Shire's Strategic Community Plan for 2022-2023 recognises and supports the significant contribution that the oil and gas sector make to the economy and community and **(1)** raises no objection to proposed drilling maintenance and installation activities. The Shire asked for consideration of the following comments:
 - **(2)** the Shire expects that Woodside will identify, manage and mitigate all possible impacts and risks in line with relevant regulatory frameworks;
 - **(3)** the Aboriginal Cultural Heritage Inquiry System (ACHIS) should be consulted to ensure site of significance are not impacted without consents;
 - **(4)** the Shire requires Woodside to brief the Shire's Local and District Emergency Management Committee's on its planned responses to such events before any activities commence;
 - **(5)** asks that Woodside has communicated with appropriate emergency management agencies at either/or National, State, District and Local levels on potential hazards and risks around the activity; collaboration and/or cooperation on risk mitigation; considered impacted areas response capacity and capability and sustainability of response activities and escalation triggers;
 - **(6)** the Shire anticipates that Woodside has undertaken their own emergency management planning to mitigate risk and recover from a risk related incident, has engaged with external emergency management agencies to ensure emergency management plans are aligned with outcomes to respond and/or recovery from the incident;
 - **(7)** the Shire anticipates that Woodside has engaged with the community regarding what may happen in areas that are affected by the proposed activities;
 - **(8)** part of the proposed activities are associated with future decommissioning works and that Woodside may consider the Shire operated Pilbara Regional Waste Management Facility (PRWMF) for its decommissioning, recycling and waste disposal purposes;
 - **(9)** the Shire appreciates the opportunity to comment on the proposed activities and requests that Woodside provide the Shire with further updates as the proposal progresses;
- On 7 August 2023, Woodside responded thanking the Shire for its comments and noted:
 - that Woodside is required to manage environmental impacts and risks to the environment that may be affected (EMBA) by its proposed activities to As Low As Reasonably Practicable (ALARP) and to an acceptable level, as required by the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Environment Regulations), through the implementation of the EP. Woodside's proposed EPs will be submitted to the National Offshore Petroleum Safety Environmental Management Authority (NOPSEMA) for assessment and acceptance.

<ul style="list-style-type: none"> ○ Woodside routinely utilises the Department of Planning, Land and Heritage Aboriginal Cultural Heritage Inquiry System as part of the EP development process and includes the results of these inquiry system searches as an appendix to each EP. ○ Woodside welcomes the opportunity to brief the Shire on its approach to managing a hydrocarbon release in the highly unlikely event this occurs. Woodside asked the Shire to please advise whether the Shire would like a briefing prior to every activity or a high level overview and also advise on possible times for a meeting. ○ Woodside has an Oil Pollution First Strike Plan in place for all EPs which details potential impacts, notifications and response mitigations that may be executed to manage an emergency event. 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan

<p>(1) Shire of Ashburton recognises and supports the contribution of oil and gas sector and raises no objection to proposed drilling commissioning and subsea installation activities.</p> <p>It noted a number of expectations around:</p> <p>(2) Identifying, managing and mitigating all possible impacts and risks.</p> <p>(3) Consulting ACHIS.</p> <p>(4) Brief the Shire’s Local and District Emergency Management Committee.</p> <p>(5) Ensure Woodside is communicating with appropriate national and state emergency management agencies.</p> <p>(6) Assumes Woodside has emergency manage planning in place.</p> <p>(7) Woodside has engaged with the community.</p> <p>(8) Consider future decommissioning works utilises the PRWMF.</p> <p>(9) Provide updates as proposal progresses.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>(1) Woodside noted the Shire of Ashburton had no objection to the activity.</p> <p>(2) Woodside confirmed it is required to manage environmental impacts and risks to the environment by the proposed activities to ALARP, as per the Environment Regulations.</p> <p>(3) Woodside routinely uses ACHIS as part of the EP development process.</p> <p>(4) Woodside welcomed the opportunity to brief the Shire at the LEMC meeting.</p> <p>(5) Woodside has an Oil Pollution First Strike Plan in place for this EP which details potential impacts, notifications and response mitigations that may be executed to manage an emergency event.</p> <p>(6) Woodside develops oil spill preparedness and response positions tailored for individual projects. Woodside consults with the relevant external management agencies to ensure all emergency management plans are aligned with effective outcomes.</p> <p>(7) Woodside consults relevant persons in the course of preparing an EP, and as per Woodside’s ongoing consultation approach, feedback and comments from relevant persons continue to be assessed and responded to, as required, throughout the life of an EP.</p> <p>(8) Woodside noted the Shire’s interest in ongoing local content opportunities.</p> <p>(9) Woodside will continue to provide the Shire with updates on the proposed activities when relevant.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>(1) Not required.</p> <p>(2) Existing controls considered sufficient as described in Section 6 of this EP.</p> <p>(3) For this EP a search of DPLH’s Aboriginal Cultural Heritage Inquiry System was undertaken (see Appendix C of this EP).</p> <p>(4) Not required.</p> <p>(5, 6) In the course of developing this EP, Woodside has developed oil spill preparedness and response positions (see Appendix H of this EP).</p> <p>(7) Woodside consults relevant persons in the course of developing an EP as described in Section 5.3 of this EP.</p> <p>(8) Not required.</p> <p>(9) Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims.</p> <p>Woodside considers the measures and controls in the EP address the Shire of Ashburton’s functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<p>Onslow Chamber of Commerce and Industry</p>		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Onslow Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Onslow Chamber of Commerce on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Onslow Chamber of Commerce with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Onslow Chamber of Commerce advising of the proposed activity (Record of Consultation, reference 1.20) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.18). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Shire of Exmouth		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Exmouth for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Shire of Exmouth on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Shire of Exmouth with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Shire of Exmouth advising of the proposed activity (Record of Consultation, reference 1.41), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.33). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Exmouth Community Liaison Group		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Exmouth CLG for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Exmouth Community Liaison Group on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Exmouth Community Liaison Group with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Exmouth Community Liaison Group advising of the proposed activity (Record of Consultation, reference 1.43), provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.34). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.
Shire of Carnarvon		

<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Carnarvon for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Shire of Carnarvon on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Shire of Carnarvon with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Shire of Carnarvon advising of the proposed activity (Record of Consultation, reference 1.42) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.35). • (1) On 17 July 2023, the Shire of Carnarvon replied and requested further information about the project’s potential impact on the Shire of Carnarvon and to share some modelling data. • On 18 July 2023, Woodside replied and advised the Shire of Carnarvon that as the Shire does not overlap the Macedon Operations EP it is not expected to be affected by planned impacts. However, as the Shire does fall within the modelled EMBA Woodside explained to the Shire, that in the highly unlikely event a hydrocarbon release does occur, the entire EMBA will not be affected and the specific and minimal part of the EMBA that is affected will only be known at the time of the release. Woodside advised that the controls to be implemented to prevent a vessel collision, as well as spill response arrangements (mitigation measures if there were to be a spill) are provided in the Mitigation and Management Measures - Table 3 in the Consultation Information Sheet or can be found on our website. 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>(1) Shire of Carnarvon requested further clarification on the project’s potential impact on the Shire.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>(1) Woodside responded with further detailed information on the EMBA and its impact on the Shire of Carnarvon. Woodside advised that the controls to be implemented to prevent a vessel collision, as well as spill response arrangements (mitigation measures if there were to be a spill) were provided in the Mitigation and Management Measures - Table 3 in the Consultation Information Sheet or could be found on its website.</p> <p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>(1) Not required.</p> <p>Woodside considers the measures and controls in the EP address the Shire of Carnarvon’s functions, interests or activities.</p> <p>No additional measures or controls are required.</p>

Carnarvon Chamber of Commerce and Industry		
<p>Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Carnarvon Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> • Consultation Information Sheet publicly available on the Woodside website since June 2023 • Woodside published advertisements in a national, state and relevant local newspapers on 7 June 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Carnarvon Chamber of Commerce on 28 June 2023 based on their function, interest and activities. • Woodside has provided a link to NOPSEMA’s brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent a follow up email seeking feedback on the proposed activities. • Woodside has provided Carnarvon Chamber of Commerce with the opportunity to provide feedback over a 7 month period. <p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> • On 28 June 2023, Woodside emailed Carnarvon Chamber of Commerce advising of the proposed activity (Record of Consultation, reference 1.44) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.36). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).	No additional measures or controls are required.

Table 3: Engagement Report with Persons or Organisations Assessed as Not Relevant

Other non-government groups or organisations		
350 Australia (350A)		
<p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> On 28 June 2023, Woodside emailed 350A advising of the proposed activity (Record of Consultation, reference 1.21) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.19). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
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Australian Conservation Foundation (ACF)		
<p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> On 28 June 2023, Woodside emailed ACF advising of the proposed activity (Record of Consultation, reference 1.21) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.19). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
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Australian Marine Conservation Society (AMCS)		

<p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> On 28 June 2023, Woodside emailed AMCS advising of the proposed activity (Record of Consultation, reference 1.21) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.19). 		
<p>Summary of Feedback, Objection or Claim</p>	<p>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</p>	<p>Inclusion in Environment Plan</p>
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>No additional measures or controls are required.</p>
<p>Conservation Council of Western Australia (CCWA)</p>		
<p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> On 28 June 2023, Woodside emailed CCWA advising of the proposed activity (Record of Consultation, reference 1.21) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.19). 		
<p>Summary of Feedback, Objection or Claim</p>	<p>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</p>	<p>Inclusion in Environment Plan</p>
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<p>Greenpeace Australia Pacific (GAP)</p>		

<p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> On 28 June 2023, Woodside emailed ACF advising of the proposed activity (Record of Consultation, reference 1.21) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.19). 		
<p>Summary of Feedback, Objection or Claim</p>	<p>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</p>	<p>Inclusion in Environment Plan</p>
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<p>Research institutes and local conservation groups or organisations</p>		
<p>Cape Conservation Group (CCG)</p>		
<p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> On 28 June 2023, Woodside emailed ACF advising of the proposed activity (Record of Consultation, reference 1.22) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.20). 		
<p>Summary of Feedback, Objection or Claim</p>	<p>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</p>	<p>Inclusion in Environment Plan</p>
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>No additional measures or controls are required.</p>
<p>Protect Ningaloo</p>		

<p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> On 28 June 2023, Woodside emailed Protect Ningaloo advising of the proposed activity (Record of Consultation, reference 1.1) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. On 7 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.1). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
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<p>University of Western Australia (UWA)</p>		
<p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> On 28 June 2023, Woodside emailed UWA advising of the proposed activity (Record of Consultation, reference 1.23) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.21). 		
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<p>Western Australian Marine Science Institution (WAMSI)</p>		

<p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> On 28 June 2023, Woodside emailed WAMSI advising of the proposed activity (Record of Consultation, reference 1.24) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.22) 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
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Commonwealth Scientific and Industrial Research Organisation (CSIRO)		
<p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> On 28 June 2023, Woodside emailed CSIRO advising of the proposed activity (Record of Consultation, reference 1.25) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.23). 		
Summary of Feedback, Objection or Claim	Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
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Australian Institute of Marine Science (AIMS)		

<p>Summary of information provided and record of consultation:</p> <ul style="list-style-type: none"> On 28 June 2023, Woodside emailed AIMS advising of the proposed activity (Record of Consultation, reference 1.26) and provided a Consultation Information Sheet, and a link to NOPSEMA’s brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. On 12 July 2023, Woodside sent a follow up email (Record of Consultation, reference 2.24). 		
<p>Summary of Feedback, Objection or Claim</p>	<p>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</p>	<p>Inclusion in Environment Plan</p>
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.3.1 of the EP).</p>	<p>No additional measures or controls are required.</p>

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1. Initial Consultation

1.1 Email sent to Australian Border Force (ABF), Department of Industry, Science and Resources (DISR), Department of Transport (DoT), Australian Energy Producers (AEP – formerly APPEA), Department of Biodiversity, Conservation and Attractions (DBCA), Department of Mines, Industry Regulation and Safety (DMIRS), Protect Ningaloo (28 June 2023)

Dear Stakeholder

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells

and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) 	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore Rehabilitation and remediation activities for the onshore Wet

	<ul style="list-style-type: none"> Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	

Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.2 Email sent to Department of Primary Industries and Regional Development (DPIRD) (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

Exclusionary / Cautionary Zones

In Commonwealth waters, a Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field. This is an exclusion zone which vessels are prohibited from entering or being present in, without Woodside permission.

A temporary 500m exclusion zone may be enacted around a vessel if it is planned to be in the field for an extended period, and is outside the Petroleum Safety Zone.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production.</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87

Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)
Relevant fisheries	<u>State fisheries</u> Operational Area: Mackerel Managed Fishery (Area 2), Marine Aquarium Managed Fishery, Pilbara Trap Managed Fishery (60 nm Only), Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery EMBA:	<u>State fisheries</u> Operational Area: Exmouth Gulf Prawn Managed Fishery, Mackerel Managed Fishery (Area 2), Marine Aquarium Managed Fishery, Onslow Prawn Managed Fishery, Pilbara Trap Fishery, Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery

	<p>Exmouth Gulf Prawn Managed Fishery, Gascoyne Demersal Scalefish Managed Fishery, Mackerel Managed Fishery (Area 2 and Area 3), Marine Aquarium Managed Fishery, Onslow Prawn Managed Fishery, Pilbara Trap Managed Fishery, Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery, West Australian Sea Cucumber Fishery</p>	
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Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.3 Email sent to Western Gas, Exxon Mobil Australia Resources Company, Shell Australia, Eni Australia, KUFPEC, Santos WA Northwest / Santos Offshore / Santos WA Southwest / Santos (BOL) / Santos WA PVG, OMV Australia, KATO Energy / KATO Corowa, INPEX Alpha, Energy Resources, Buru Energy, Carnarvon Energy, AGI Tubridgi, Allasso Energy (28 June 2023)

Dear Titleholder

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) 	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore

	<ul style="list-style-type: none"> Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	

Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.4 Email sent to Australian Hydrographic Office (AHO), Australian Maritime Safety Authority (AMSA) – Marine Safety (28 June 2023)

Dear AHO / AMSA

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). **A shipping lane map is also attached.** You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
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Controlled Ref No: SA0006AH1401760303

Revision: 0

Woodside ID: 1401760303

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Uncontrolled when printed. Refer to electronic version for most up to date information.

<p>Summary</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
<p>Production Licences</p>	<p>WA-42-L</p>	<p>None</p>
<p>Pipeline Licences</p>	<p>WA-23-PL</p>	<p>TPL/23</p> <p>PL 88</p> <p>PL 87</p>
<p>Location</p>	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
<p>Approx. Water Depth (m)</p>	<p>Wells: ~160 to 180 m</p>	<p>State waters pipeline: Mean Low Water Mark (MLWM) at the</p>

	Pipeline: State/Commonwealth waters boundary ~ 60 m	shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.5 Email sent to Australian Maritime Safety Authority (AMSA) – Marine Pollution (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

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The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled

[environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88

		PL 87
Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.6 Email sent to Australian Fisheries Management Authority (AFMA) (28 June 2023)

Dear AFMA

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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Activity overview

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Exclusionary / Cautionary Zones

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We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production.</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p>

	<p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
Approx. Water Depth (m)	<p>Wells: ~160 to 180 m</p> <p>Pipeline: State/Commonwealth waters boundary ~ 60 m</p>	<p>State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary</p>
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	<p>Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.</p>	None

Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)
Relevant fisheries	<p><u>Commonwealth fisheries</u></p> Operational Area:	<p><u>Commonwealth fisheries</u></p> Operational Area:
	<ul style="list-style-type: none"> • None EMBA:	<ul style="list-style-type: none"> • None
	<ul style="list-style-type: none"> • North West Slope Trawl Fishery • Western Deepwater Trawl Fishery 	

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.7 Email sent to Exmouth Gulf Prawn, Pilbara Trap Fishery and Pilbara Line Fishery (28 June 2023)

Dear Fishery Stakeholder

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

Exclusionary / Cautionary Zones

In Commonwealth waters, a Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field. This is an exclusion zone which vessels are prohibited from entering or being present in, without Woodside permission.

A temporary 500m exclusion zone may be enacted around a vessel if it is planned to be in the field for an extended period, and is outside the Petroleum Safety Zone.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production.</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87

Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)
Relevant fisheries	<u>State fisheries</u> Operational Area: Mackerel Managed Fishery (Area 2), Marine Aquamarine Fish Managed Fishery, Pilbara Trap Managed Fishery (60 nm Only), Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery	<u>State fisheries</u> Operational Area: Exmouth Gulf Prawn Managed Fishery, Mackerel Managed Fishery (Area 2), Marine Aquarium Managed Fishery, Onslow Prawn Managed Fishery, Pilbara Trap Fishery, Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery

	<p>EMBA:</p> <p>Exmouth Gulf Prawn Managed Fishery, Gascoyne Demersal Scalefish Managed Fishery, Mackerel Managed Fishery (Area 2 and Area 3), Marine Aquamarine Fish Managed Fishery, Onslow Prawn Managed Fishery, Pilbara Trap Managed Fishery, Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery, West Australian Sea Cucumber Fishery</p>	
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Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.8 Email sent to Western Australian Fishing Industry Council (WAFIC) (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

Exclusionary / Cautionary Zones

In Commonwealth waters, a Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field. This is an exclusion zone which vessels are prohibited from entering or being present in, without Woodside permission.

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An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Woodside acknowledges WAFIC's [consultation guidance](#) and has applied this by consulting fisheries that are assessed as having a potential for interaction in the

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Operational Area directly and consulting fisheries assessed as having a potential for interaction in the EMBA via WAFIC.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production.</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>

Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)
Relevant fisheries	<u>State fisheries</u> Operational Area: Mackerel Managed Fishery (Area 2), Marine Aquamarine Fish Managed Fishery, Pilbara Trap Managed Fishery (60 nm Only), Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery EMBA: Exmouth Gulf Prawn Managed Fishery, Gascoyne Demersal Scalefish Managed Fishery,	<u>State fisheries</u> Operational Area: Exmouth Gulf Prawn Managed Fishery, Mackerel Managed Fishery (Area 2), Marine Aquarium Managed Fishery, Onslow Prawn Managed Fishery, Pilbara Trap Fishery, Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery

	Mackerel Managed Fishery (Area 2 and Area 3), Marine Aquamarine Fish Managed Fishery, Onslow Prawn Managed Fishery, Pilbara Trap Managed Fishery, Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery, West Australian Sea Cucumber Fishery	
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Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.9 Email sent to North West Slope and Trawl Fishery, Western Deepwater Trawl Fishery, Commonwealth Fisheries Association (CFA), Australian Southern Bluefin Tuna Industry Association (ASBTIA), Tuna Australia (28 June 2023)

Dear Fishery Stakeholder

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

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Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

Exclusionary / Cautionary Zones

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The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production.</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
Approx. Water Depth (m)	<p>Wells: ~160 to 180 m</p> <p>Pipeline: State/Commonwealth waters boundary ~ 60 m</p>	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	

Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	<p>Four subsea production wells, with potential fifth well</p> <p>Production manifold, flowlines and umbilicals and supporting subsea infrastructure</p> <p>Two non-production wells with wellheads</p> <p>Section of pipeline in Commonwealth waters</p>	<p>Pipeline in State waters and onshore</p> <p>Umbilical in State waters and onshore</p>
Vessels/Vehicles	Subsea support vessels	<p>Subsea support vessels (State waters)</p> <p>Operational vehicles (onshore)</p>
Relevant fisheries	<p><u>Commonwealth fisheries</u></p> <p>Operational Area:</p> <ul style="list-style-type: none"> • None <p>EMBA:</p> <ul style="list-style-type: none"> • North West Slope Trawl Fishery • Western Deepwater Trawl Fishery 	<p><u>Commonwealth fisheries</u></p> <p>Operational Area:</p> <ul style="list-style-type: none"> • None

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

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Petroleum (Submerged Lands) (Environment) Regulations 2012 (WA) and the Petroleum Pipelines (Environment) Regulations 2012 (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.10 Letter sent to Marine Aquarium Managed Fishery, Mackerel Managed Fishery (Area 2), Onslow Prawn Managed Fishery, Western Australian Sea Cucumber Managed Fishery, Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery (28 June 2023)

Dear Fishery Stakeholder

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

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Exclusionary / Cautionary Zones

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In Commonwealth waters, a Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field. This is an exclusion zone which vessels are prohibited from entering or being present in, without Woodside permission.

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Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production. Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters Non-routine and unplanned activities and incidents associated with the above. Production from, IMMR activities for and routine and unplanned activities	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines. Non-routine and unplanned activities and incidents associated with the above.

	<p>associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
Approx. Water Depth (m)	<p>Wells: ~160 to 180 m</p> <p>Pipeline: State/Commonwealth waters boundary ~ 60 m</p>	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	<p>Four subsea production wells, with potential fifth well</p> <p>Production manifold, flowlines and umbilicals and supporting subsea infrastructure</p> <p>Two non-production wells with wellheads</p>	Pipeline in State waters and onshore Umbilical in State waters and onshore

	Section of pipeline in Commonwealth waters	
Vessels/Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)
Relevant fisheries	<p><u>State fisheries</u></p> <p>Operational Area:</p> <p>Mackerel Managed Fishery (Area 2), Marine Aquamarine Fish Managed Fishery, Pilbara Trap Managed Fishery (60 nm Only), Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery</p> <p>EMBA:</p> <p>Exmouth Gulf Prawn Managed Fishery, Gascoyne Demersal Scalefish Managed Fishery, Mackerel Managed Fishery (Area 2 and Area 3), Marine Aquamarine Fish Managed Fishery, Onslow Prawn Managed Fishery, Pilbara Trap Managed Fishery, Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery, West Australian Sea Cucumber Fishery</p>	<p><u>State fisheries</u></p> <p>Operational Area:</p> <p>Exmouth Gulf Prawn Managed Fishery, Mackerel Managed Fishery (Area 2), Marine Aquarium Managed Fishery, Onslow Prawn Managed Fishery, Pilbara Trap Fishery, Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery</p>

Feedback:

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Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the

Macedon Operations Commonwealth Environment Plan

Petroleum (Submerged Lands) (Environment) Regulations 2012 (WA) and the Petroleum Pipelines (Environment) Regulations 2012 (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

Sample Letter

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28 June 2023

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Dear Fishery Stakeholder

MACEDON OPERATIONS COMMONWEALTH AND STATE ENVIRONMENT PLANS

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

Exclusionary / Cautionary Zones

In Commonwealth waters, a Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field. This is an exclusion zone which vessels are prohibited from entering or being present in, without Woodside permission.

A temporary 500m exclusion zone may be enacted around a vessel if it is planned to be in the field for an extended period, and is outside the Petroleum Safety Zone.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated

management measures. These are also available on our [p](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by 28 July 2023.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production. Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters Non-routine and unplanned activities and incidents associated with the above. Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision. Export of gas to other fields is included within the scope of the Commonwealth EP revision.	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines. Non-routine and unplanned activities and incidents associated with the above.
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88

		PL 87
Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)
Relevant fisheries	<u>State fisheries</u> Operational Area: Mackerel Managed Fishery (Area 2), Marine Aquamarine Fish Managed Fishery, Pilbara Trap Managed Fishery (60 nm Only), Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery EMBA:	<u>State fisheries</u> Operational Area: Exmouth Gulf Prawn Managed Fishery, Mackerel Managed Fishery (Area 2), Marine Aquarium Managed Fishery, Onslow Prawn Managed Fishery, Pilbara Trap Fishery, Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery

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Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

Regards,

Woodside Feedback



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f t in v @

1.11 Letter sent to Gascoyne Recreational Marine Users (28 June 2023)

Dear Stakeholder

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

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Activity overview

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If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87

Macedon Operations Commonwealth Environment Plan

Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

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SAMPLE LETTER



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28 June 2023

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Dear Stakeholder

MACEDON OPERATIONS COMMONWEALTH AND STATE ENVIRONMENT PLANS

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

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Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	

Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
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Regards,

Woodside Feedback



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f t in v i

1.12 Email sent to Exmouth Recreational Marine Users, Recfishwest, Marine Tourism Association, WA Game Fishing Association (28 June 2023)

Dear Stakeholder

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Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production.</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None

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Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
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Vessels/Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

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1.13 Email sent to Department of Agriculture Fisheries and Forestry (DAFF) – Fisheries and Biosecurity (28 June 2023)

Dear DAFF – Fisheries and Biosecurity

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A temporary 500m exclusion zone may be enacted around a vessel if it is planned to be in the field for an extended period, and is outside the Petroleum Safety Zone.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production.</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>

Macedon Operations Commonwealth Environment Plan

	included in the scope of the Commonwealth EP revision. Export of gas to other fields is included within the scope of the Commonwealth EP revision.	
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore

Vessels/Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)
Relevant fisheries	<p><u>Commonwealth fisheries</u></p> <p>Operational Area:</p> <ul style="list-style-type: none"> • None <p>EMBA:</p> <ul style="list-style-type: none"> • North West Slope Trawl Fishery • Western Deepwater Trawl Fishery 	<p><u>Commonwealth fisheries</u></p> <p>Operational Area:</p> <ul style="list-style-type: none"> • None

Biosecurity:

With respect to the biosecurity matters, please note the following information below:

Environment description:

The Commonwealth Petroleum Activity Area is located in water depths of approximately 180 at the wells to 60 m deep at the State/Commonwealth waters boundary. The offshore portion of the State Petroleum Activity Area is located in water depths of 60m at the State/Commonwealth waters boundary to the Mean Low Water Mark (MLWM), with the majority of the 44km length of pipeline located in water depth of less than 30 m. Both are located on the continental shelf. The bathymetry within this marine environment is generally flat and has a gentle seaward gradient.

The seabed in the Commonwealth Petroleum Activity Area is likely to be dominated by soft sediment comprised of fine to coarse sands, which typify the sediments of the North West Marine Region.

In State waters, prior to pipeline construction, the seafloor was surveyed and a route was chosen that avoided significant benthic features. A narrow band of shallow subtidal beach rock / low relief reef is located approximately 800 m offshore from the shore crossing location. This feature comprises exposed rock with scattered corals (predominantly along the seaward edge), sponges and macroalgae. Scattered seagrass and algae were observed on both sides of the reef. Within the State water section of the pipeline there are no major reefs, however there are secondary features, such as areas of limestone pavement, raised pavement and low relief reef that were crossed (in the vicinity of the shore crossing). Further, corals, seagrasses and macroalgae occur at varying densities around the various reefs and uninhabited islands in the area, such as Lockyer Island and Hood Reef. The pipeline is a minimum of 2 km from these features in WA State waters.

The onshore component of the State Petroleum Activity Area is located within the wider Northern Carnarvon Basin across the boundary between the Fortescue and Carnarvon Botanical Districts and contains elements of both vegetation systems. Vegetation condition ranges from 'Excellent' to 'Very Poor' / 'Completely Degraded'. The presence of buffel (*Cenchrus ciliaris*), reduces the condition rating due to the presence of the weed. Similarly, some areas were grazed by cattle, which impacts on vegetation condition.

Potential IMS risk	IMS mitigation management
Accidental introduction and establishment of invasive marine species	Vessels are required to comply with the Australian Biosecurity Act 2015, specifically the Australian Ballast Water Management Requirements (as defined under the Biosecurity Act 2015) (aligned with the International Convention for the Control and Management of Ships' Ballast Water and Sediments) to prevent introducing IMS. Vessels will be assessed and managed to prevent the introduction of invasive marine species in accordance with Woodside's Petroleum DeepWater (PetDW) Invasive Marine Species Management Procedure (previously BHP's Invasive Marine Species Management Procedure). Woodside's PetDW Invasive Marine Species Management Plan includes a risk assessment process that is applied to vessels undertaking Activities. Based on the outcomes of each IMS risk assessment, Management measures commensurate with the risk (such as the treatment of internal systems, IMS inspections or cleaning) will be implemented to minimise the likelihood of IMS being introduced.

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **27 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.14 Email sent to Department of Defence (DoD) (28 June 2023)

Dear Department of Defence

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) 	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore

	<ul style="list-style-type: none"> Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	

Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.15 Email sent to Department of Climate Change, Energy, the Environment and Water (DCCEEW) (28 June 2023)

Dear DCCEEW

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
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Woodside ID: 1401760303

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Uncontrolled when printed. Refer to electronic version for most up to date information.

<p>Summary</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
<p>Production Licences</p>	<p>WA-42-L</p>	<p>None</p>
<p>Pipeline Licences</p>	<p>WA-23-PL</p>	<p>TPL/23</p> <p>PL 88</p> <p>PL 87</p>
<p>Location</p>	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
<p>Approx. Water Depth (m)</p>	<p>Wells: ~160 to 180 m</p>	<p>State waters pipeline: Mean Low Water Mark (MLWM) at the</p>

	Pipeline: State/Commonwealth waters boundary ~ 60 m	shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth)* and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012 (WA)* and the *Petroleum Pipelines (Environment) Regulations 2012 (WA)*.

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.16 Email sent to Director of National Parks (DNP) (28 June 2023)

Dear Director of National Parks

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above. The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

Australian Marine Parks (AMPs)

We note Australian Government Guidance on consultation activities and confirm that:

- The proposed activities are outside the boundaries of a proclaimed Australian Marine Parks, with the:
 - Macedon wells and pipeline in Commonwealth waters located approximately 2.8 km north-east of the Muiron Islands Marine Management Area (State Marine Park) (measured from the closest point of the Operational Area) and ~10 km north-east from the Ningaloo World Heritage (Recreational Use Zone) (measured from the closest point of the Commonwealth Operational Area).

- The Macedon pipeline in State waters located approximately 33km east of the Ningaloo Marine Park; approximately 8km east of the Muiron Islands Marine Management Area; and approximately 1.5 km from Round Island and Locker Island Nature Reserves (measured from the closest point of the State Operational Area).
- We have assessed potential impacts and risks to Australian Marine Parks (AMPs) in the development of the proposed Environment Plans and believe that there are no planned impacts as part of planned activities that have potential to impact the values of the Marine Parks.
- The worst-case credible risk being assessed in these EPs is the remote likelihood of a vessel collision event resulting a spill of marine diesel to the marine environment. Through review of hydrocarbon spill modelling of this unplanned risk, and with consideration of a 50-ppb dissolved and 100 ppb entrained hydrocarbon thresholds, the following AMPs may be contacted in the event of a spill:
 - Gascoyne Marine Park
 - Montebello Marine Park
 - Ningaloo Marine Park
- For the Commonwealth EP, a Commonwealth Government-approved oil spill response plan will be in place for the duration of the activities. For the State EP, a State Government-approved oil spill response plan will be in place for the duration of the activities. For both, these will include notifications to relevant agencies and organisations as to the nature and scale of the event, as soon as practicable following an occurrence. The Director of National Parks will be advised if an environmental incident occurs that may impact on the values of the Marine Park.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> ● Four subsea 	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> ● Wet Gas Pipeline located in State waters and onshore ● Dry Sales Gas Pipeline located onshore

	<p>wells and pipeline located in Commonwealth waters (with potential for fifth)</p> <ul style="list-style-type: none"> • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88

		PL 87
Location	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
Approx. Water Depth (m)	<p>Wells: ~160 to 180 m</p> <p>Pipeline: State/Commonwealth waters boundary ~ 60 m</p>	<p>State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary</p>
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	<p>Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.</p>	None
Infrastructure	<p>Four subsea production wells, with potential fifth well</p> <p>Production manifold, flowlines and umbilicals and supporting subsea infrastructure</p>	<p>Pipeline in State waters and onshore</p> <p>Umbilical in State waters and onshore</p>

	Two non-production wells with wellheads Section of pipeline in Commonwealth waters	
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have any feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA or DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA or DMIRS.

1.17 Email sent to Department of Planning, Lands and Heritage (DPLH) (28 June 2023)

Dear DPLH

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon

Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in 	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.

	<p>Commonwealth waters</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
Approx. Water Depth (m)	<p>Wells: ~160 to 180 m</p> <p>Pipeline: State/Commonwealth waters boundary ~ 60 m</p>	<p>State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary</p>
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	

Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.18 Email sent to Western Australian Museum (28 June 2023)

Dear Western Australian Museum

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Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). **Also attached is a list of shipwrecks in State waters within the EMBA.** You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
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<p>Summary</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
<p>Production Licences</p>	<p>WA-42-L</p>	<p>None</p>
<p>Pipeline Licences</p>	<p>WA-23-PL</p>	<p>TPL/23</p> <p>PL 88</p> <p>PL 87</p>
<p>Location</p>	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
<p>Approx. Water Depth (m)</p>	<p>Wells: ~160 to 180 m</p>	<p>State waters pipeline: Mean Low Water Mark (MLWM) at the</p>

	Pipeline: State/Commonwealth waters boundary ~ 60 m	shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.19 Email sent to Shire of Ashburton – (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87

Macedon Operations Commonwealth Environment Plan

Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.20 Email sent to Onslow Chamber of Commerce and Industry (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>

Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore

Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)
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Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **27 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.21 Email sent to Australian Conservation Foundation (ACF), Australian Marine Conservation Society (AMCS), Conservation Council of Western Australia (CCWA), Greenpeace Australia Pacific (GAP) Sea Shepherd Australia (SSA) and 350 Australia (350A) (28 June 2023)

Dear Stakeholder

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters 	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.

	<p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
Approx. Water Depth (m)	<p>Wells: ~160 to 180 m</p> <p>Pipeline: State/Commonwealth waters boundary ~ 60 m</p>	<p>State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary</p>
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	

Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.22 Email sent to Cape Conservation Group (CCG) (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

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Macedon Operations Commonwealth Environment Plan

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

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Activity overview

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- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
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If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production Routine inspection, monitoring, maintenance	Routine production

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	<p>and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary

Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.23 Email sent to University of Western Australia (UWA) (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

Woodside is seeking your advice regarding any research activities that UWA may be undertaking that may overlap with our proposed activities.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMUR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87

Macedon Operations Commonwealth Environment Plan

Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.24 Email sent to Western Australian Marine Science Institution (WAMSI) (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and

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risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

Woodside is seeking your advice regarding any research activities that WAMSI may be undertaking that may overlap with our proposed activities.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>

Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore

Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)
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Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.25 Email sent to Commonwealth Scientific and Industrial Research Organisation (CSIRO) (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads

- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

Woodside is seeking your advice regarding any research activities that CSIRO may be undertaking that may overlap with our proposed activities.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters Non-routine and unplanned activities and incidents associated with the above.	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines. Non-routine and unplanned activities and incidents associated with the above.

	<p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
Approx. Water Depth (m)	<p>Wells: ~160 to 180 m</p> <p>Pipeline: State/Commonwealth waters boundary ~ 60 m</p>	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None

<p>Infrastructure</p>	<p>Four subsea production wells, with potential fifth well</p> <p>Production manifold, flowlines and umbilicals and supporting subsea infrastructure</p> <p>Two non-production wells with wellheads</p> <p>Section of pipeline in Commonwealth waters</p>	<p>Pipeline in State waters and onshore</p> <p>Umbilical in State waters and onshore</p>
<p>Vessels/ Vehicles</p>	<p>Subsea support vessels</p>	<p>Subsea support vessels (State waters)</p> <p>Operational vehicles (onshore)</p>

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.26 Email sent to Australian Institute of Marine Science (AIMS) (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth 	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore

	<p>waters (with potential for fifth)</p> <ul style="list-style-type: none"> Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<ul style="list-style-type: none"> Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	

Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.28 Email sent to Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC) via Yamatji Marlpa Aboriginal Corporation (YMAC) (19 June 2023)

Dear [REDACTED],

I hope this message finds you well. Further to our discussions and earlier correspondence regarding Woodside's proposed Scarborough, decommissioning, drilling, survey, and development activities, please find attached information about two additional activities:

- Angel Facility Operations – Woodside is planning to revise and resubmit the Angel Facility Operations EP to integrate drilling, subsea installation commissioning and production from the Lambert West Field, located around 126 km north-north-west of Dampier.
- Macedon Operations – Woodside is submitting a five yearly revision of the Macedon Operations Commonwealth and State EPs in accordance with State and Commonwealth Regulations. The Macedon gas field is located approximately 40 km north of Exmouth and 100 km west of Onslow.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EPs.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

- [lambert-west.pdf \(woodside.com\)](#)
- [macedon.pdf \(woodside.com\)](#)

Woodside is seeking to understand the nature of the interests that Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC) and its members may have in the 'environment that may be affected' (EMBA) by these activities. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activities could impact your interests and activities and/or your cultural values
- your concerns about the proposed activities and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **13 July 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to NTGAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with NTGAC members, the NTGAC Board and office holders and other interested parties.

We look forward to hearing from you.

As always please be in contact if you require further information and if Woodside can assist NTGAC in any way to participate in these processes.

1.29 Email sent to Buurabalayji Thalanyji Aboriginal Corporation (BTAC) (19 June 2023)

Dear [REDACTED]

I hope this message finds you both well, and [REDACTED], thank you for your time on the phone last Friday. Further to our discussions and earlier correspondence regarding Woodside's proposed Scarborough, decommissioning, drilling, survey, and development activities, please find attached information about two additional activities:

- Angel Facility Operations – Woodside is planning to revise and resubmit the Angel Facility Operations EP to integrate drilling, subsea installation commissioning and production from the Lambert West Field, located around 126 km north-north-west of Dampier.
- Macedon Operations – Woodside is submitting a five yearly revision of the Macedon Operations Commonwealth and State EPs in accordance with State and Commonwealth Regulations. The Macedon gas field is located approximately 40 km north of Exmouth and 100 km west of Onslow.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EPs.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

- [lambert-west.pdf \(woodside.com\)](#)
- [macedon.pdf \(woodside.com\)](#)

Woodside is seeking to understand the nature of the interests that Buurabalayji Thalanyji Aboriginal Corporation (BTAC) and its members may have in the 'environment that may be affected' (EMBA) by these activities. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activities could impact your interests and activities and/or your cultural values
- your concerns about the proposed activities and what you think we should do about those concerns

- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **13 July 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to BTAC members and other people and organisations who you think may be interested as required. Woodside would be pleased to speak with BTAC members, the BTAC Board and office holders and other interested parties.

We look forward to hearing from you and to continuing our work together, including on the ongoing consultation framework.

As always please be in contact if you require further information and please reach out if Woodside can assist BTAC in any way to participate in these processes.

Sincerely,

1.30 Email sent to Yinggarda Aboriginal Corporation (YAC) (19 June 2023)

Dear [REDACTED]

Firstly, thank you for your correspondence last Thursday regarding consultation about Woodside's Julimar and Goodwyn activities. I will respond separately about this with a view to seeking more time for these consultations with Yinggarda Aboriginal Corporation (YAC) on or before 6 July, that Woodside would be pleased assist with by way of funding reasonable costs.

Further my correspondence regarding Woodside's proposed Scarborough, decommissioning, drilling, survey, and development activities, please find attached information about two additional activities:

- Angel Facility Operations – Woodside is planning to revise and resubmit the Angel Facility Operations EP to integrate drilling, subsea installation commissioning and production from the Lambert West Field, located around 126 km north-north-west of Dampier.
- Macedon Operations – Woodside is submitting a five yearly revision of the Macedon Operations Commonwealth and State EPs in accordance with State and Commonwealth Regulations. The Macedon gas field is located approximately 40 km north of Exmouth and 100 km west of Onslow.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EPs.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

- [lambert-west.pdf \(woodside.com\)](#)
- [macedon.pdf \(woodside.com\)](#)

Woodside is seeking to understand the nature of the interests that YAC and its members may have in the 'environment that may be affected' (EMBA) by these activities. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activities could impact your interests and activities and/or your cultural values
- your concerns about the proposed activities and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **13 July 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to YAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with YAC members, the YAC Board and office holders and other interested parties.

We look forward to hearing from you.

As always please be in contact if you require further information and if Woodside can assist YAC in any way to participate in these processes.

Sincerely,

1.32 Summary Consultation Information Sheet

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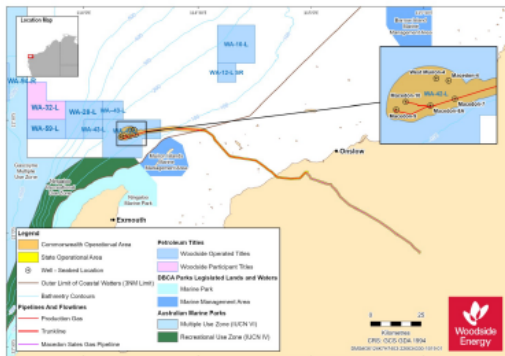
MACEDON OPERATIONS (COMMONWEALTH AND STATE)

This is a summary of the activity in plain English. More detailed information is included in the Activity Update – Macedon Operations Commonwealth and State Environment Plans (EPs) Information Sheet.

Overview

Woodside operates the Macedon project (previously operated by BHP Petroleum Pty Ltd) and is submitting a five yearly revision of the Macedon Operations Commonwealth and State EPs in accordance with State and Commonwealth regulations. The Macedon gas field is in Commonwealth waters, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia (WA). The Macedon gas plant is located approximately 17 km southwest of Onslow in the Pilbara region of WA. Gas produced from the Macedon field is transported via pipeline to the Macedon gas plant, and then into the Dampier to Bunbury Natural Gas Pipeline. The EPs are for the proposed continuation of operation, inspection, monitoring, maintenance and repair activities of the pipeline, production wells and subsea infrastructure.

The activities described above are planned to occur in the Commonwealth and State the Operational Area shown on the map below.



Work Program

Production

The Macedon project produces and transports gas from the offshore Macedon gas field through a subsea pipeline to the Macedon gas treatment and compression plant site near Onslow. Treated gas is then transferred into the Dampier to Bunbury Natural Gas Pipeline. Subsea wells and facilities are remotely controlled from the Macedon gas treatment and compression plant site.

Inspection and Monitoring

Woodside plans to continue to monitor and inspect infrastructure for changes on an ongoing basis. Various techniques are used for this including remote monitoring and visual inspection from submersible vessels, for example.

Maintenance and Repair

Maintenance of infrastructure is required at regular and/or planned intervals, and otherwise as required, to keep equipment in good condition and to prevent its deterioration or failure or breakages. There are many maintenance and repair activities including the opening and closing of valves and leak pressure testing.

Marine Activity Vessels

Operations support vessels will be used to undertake work on subsea pipeline and supporting infrastructure. The vessel size and type will be dependent on the work scope. The vessels are not expected to anchor during work activities unless in an emergency.

Onshore Activity Vehicles

Operations vehicles will be used to undertake work on onshore pipeline and supporting infrastructure. The vehicle size and type will be dependent on the work scope.

Environmental Impacts and Management

This proposed work program includes planned activities but may also result in unplanned events. Both planned activities and unplanned events may impact the environment. Woodside manages the work program to reduce impacts and risks to as low as reasonably practicable.

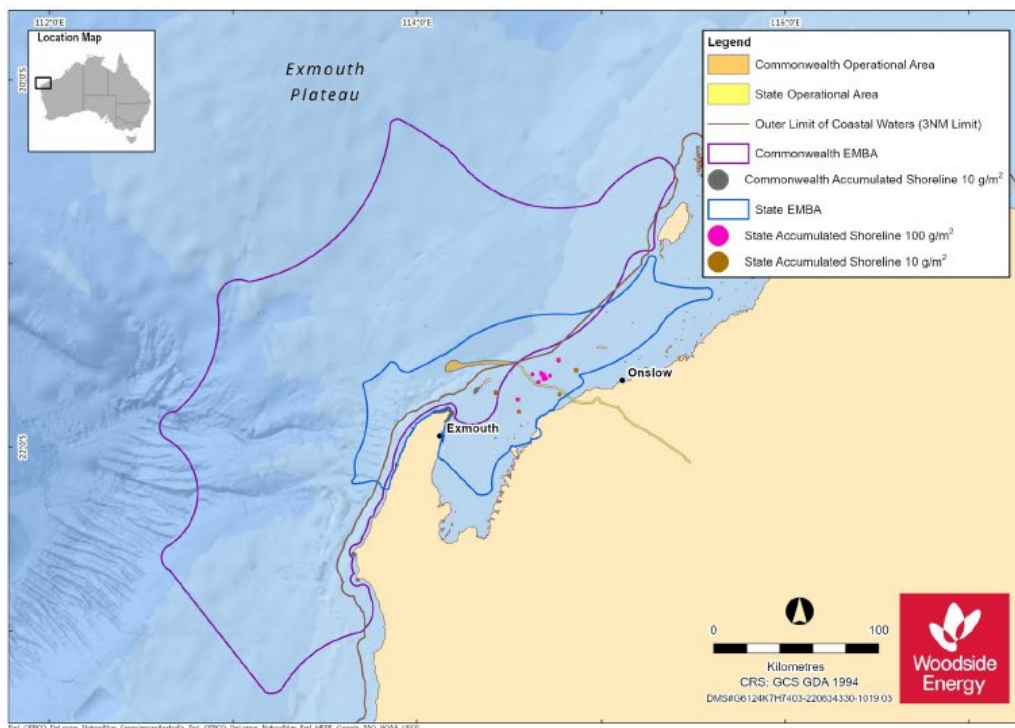
Planned activities are activities that Woodside knows will happen as part of this work program. For example, planned activities include other marine users being temporarily stopped from accessing the work area, and the marine vessels generating underwater noise, light emissions, atmospheric emissions, and routine discharges (such as sewage, waste, and deck drainage), and other authorised waste.

Unplanned events are not planned as part of the work program, but may be the result of an accident, incident, or emergency. Unplanned events might include a spill of diesel fuel from a vessel collision, a release of hydrocarbons from offshore wells, an accidental release of oil during use of remotely operated vehicles, unplanned seabed disturbance from a dropped object, accidental collision with marine animals, waste entering the environment, and the accidental introduction of invasive species from outside the region. Management measures will be in place to reduce the probability and impacts of these unplanned events to as low as reasonably practicable.

A table showing planned activities and unplanned events, potential impacts, and management measures for each is included in the Macedon Operations Commonwealth and State Environment Plans Information Sheet in Table 3. This Information Sheet is attached and available at www.woodside.com/docs/default-source/current-consultation-activities/macedon.pdf?sfvrsn=8f7481da_12.

Macedon Operations Commonwealth Environment Plan

The total area over which unplanned events could have environmental impacts is shown in the map below. This is referred to as the environment that may be affected (EMBA), which is predicted using computer modelling. In the highly unlikely event such as a fuel spill from a vessel collision or a hydrocarbon release from one of the wells or pipelines, the entire EMBA will not be affected. The part of the EMBA affected will only be known at the time of the event and will depend on several variables, such as the direction and strength of the wind, tide, and currents for example. Locations where oil may build up and contact the shoreline if there is an unplanned event are shown on the map below as 'Accumulated Shoreline'.



Providing Feedback

If you have an interest in the area of the "environment that may be affected" (EMBA) by this work program, and would like more information, have any concerns and / or any suggestions for how Woodside can minimise potential environmental impacts, you can tell Woodside by calling 1800 442 977 or send an email to Feedback@woodside.com.au. Please also tell Woodside if you know anyone else, or any organisation, who may be interested in these matters and feel free to pass this information to them.

If you would prefer to speak to the government directly, they can be contacted on +61 (0)8 6188 8700 or send an email to communications@nopsema.com.au.

Conclusion

Woodside produces energy that Western Australia, Australia, and the world needs. Woodside has made this energy from its oil and gas projects in Western Australia for over 35 years safely, reliably, and without any major environmental incident. Woodside is very proud of this legacy.

There are always potential risks with activities like this. Woodside has carefully planned this work program so that the risk of environmental impact is reduced to as low as reasonably practical and of an acceptable level. There are also strict government laws in place to protect the environment. Woodside complies with these laws and has systems in place to keep following these laws and rules for each project it undertakes.

If you would like information about Woodside's work to study and care for the environment, you can find it at www.woodside.com/sustainability/environment.

Further Information

The more detailed Information Sheet for this proposed activity can be found on Woodside's website at www.woodside.com/sustainability/consultation-activities. Please also contact Woodside directly on the details above and visit Woodside's website for further information about the company, its projects and environmental management.

www.woodside.com



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CONSULTATION

INFORMATION SHEET

June 2023

MACEDON OPERATIONS COMMONWEALTH AND STATE ENVIRONMENT PLANS

CARNARVON BASIN, NORTH-WEST AUSTRALIA

Woodside consults relevant persons in the course of preparing an environment plan (EP) to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that could be taken to lessen or avoid potential adverse effects of the proposed activity on the environment. This is the intended outcome of consultation.

Woodside's aim is to ensure the proposed activity is carried out in a manner that is consistent with the principles of ecologically sustainable development (ESD), by which the environmental impacts and risks of the activity are reduced to as low as reasonably practicable (ALARP) and to an acceptable level. We want relevant persons whose functions, interests or activities that may be affected by the proposed activity to have the opportunity to provide feedback on our proposed activity, in accordance with the intended outcome of consultation.

Overview

Woodside is submitting a revision of the Macedon Operations Commonwealth and State environment plans. The Macedon Operations (previously operated by BHP Petroleum Pty Ltd) involves the production of gas from the Macedon gas field located in Commonwealth waters via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. Treated gas is then transported through the Sales Gas Pipeline to an injection point on the Dampier to Bunbury Natural Gas Pipeline. The subsea infrastructure is operated remotely from the onshore Macedon Gas Plant via an umbilical.

The EPs are being resubmitted as five-yearly revisions in accordance with State and Commonwealth regulations.

Activity overview

The Scope of the EPs covers the following activities to be undertaken during the next five-year period including:

- Routine production and operations
- Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:
 - Four subsea wells and pipeline located in Commonwealth waters
 - Two non-producing wells with wellheads
 - Wet Gas Pipeline located in State waters and onshore
 - Dry Sales Gas Pipeline located onshore
- Rehabilitation and remediation of the:
 - Onshore Wet Gas and Dry Sales Gas Pipelines.
- Non-routine and unplanned activities and incidents associated with the above

Development of an additional (new) gas production well from an adjacent reservoir (Muiron) may occur during the five-year period. Drilling and installation of additional infrastructure would be covered under a separate EP, however production, IMMR activities for routine and unplanned activities associated with production from the well are included in the scope of the Commonwealth EP revision.

Export of gas to other fields from the Macedon reservoir may also occur within the five-year period and is to be included within the Commonwealth EP revision.

Table 1 summarises the operational activities proposed to be undertaken for Macedon under the two EPs.

Location and Operations

The Macedon gas field is located in Commonwealth waters ranging from 120 to 180 m in depth, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia (WA). The Macedon Gas Plant is located approximately 17 km south west of Onslow in the Pilbara region of WA (**Figure 1**).

Inspection

Inspection of infrastructure is the process of physical verification and assessment of subsea components in order to detect changes compared to its installed state. Typical site inspection activities include visual surveys via a remotely operated vehicle, side scan sonar surveillance, cathodic protection measurements and ultrasonic pipe condition checks.

Monitoring

Monitoring is the surveillance of the physical and chemical environment around subsea infrastructure. Monitoring activities may include process composition, corrosion probes, corrosion mitigation checks, and metocean and geological monitoring.

Maintenance

Maintenance of infrastructure is required at regular and/or planned intervals to maintain performance reliability and prevent deterioration or failure of equipment. Maintenance activities may include cycling of valves and leak pressure testing.

Repair

Repair activities are those required when a subsea system or component is degraded or damaged as defined by design codes.

Decommissioning

Macedon-4 and West Murion-4 are non-producing wells with wellheads. They are both plugged and suspended. They are to continue to be monitored and maintained until they are plugged and abandoned and the wellheads decommissioned. The plug and abandonment and decommissioning activities are proposed to be the subject of separate EPs.

Marine Activity Vessels

Operations support vessels will be used to undertake IMMR of subsea infrastructure. The vessel size and type will be dependent on the work scope. The vessels will not anchor during IMMR activities unless there is an emergency.

Onshore Activity Vehicles

Operations vehicles will be used to undertake IMMR of onshore pipeline and supporting infrastructure. The vehicle size and type will be dependent on the work scope.

Assessment

Woodside has undertaken an assessment to identify potential risks to the marine environment, terrestrial environment, cultural heritage, other activities and relevant persons, considering timing, duration, location and potential impacts arising from the planned activities. A number of mitigation and management measures are to be implemented and are summarised in **Table 2**. Further details are to be provided in the EPs.

In preparing the EPs, Woodside's intent is to minimise environmental, and social impacts associated with the proposed activities, and Woodside is seeking interest or comments you may have to inform Woodside's decision making.

Joint Venture

Woodside is the Operator on behalf of the Macedon Joint Venture Partners. The participants are Woodside Energy (Australia) Pty Ltd and Santos WA PVG Pty Ltd.

We welcome your feedback by 7 July 2023.

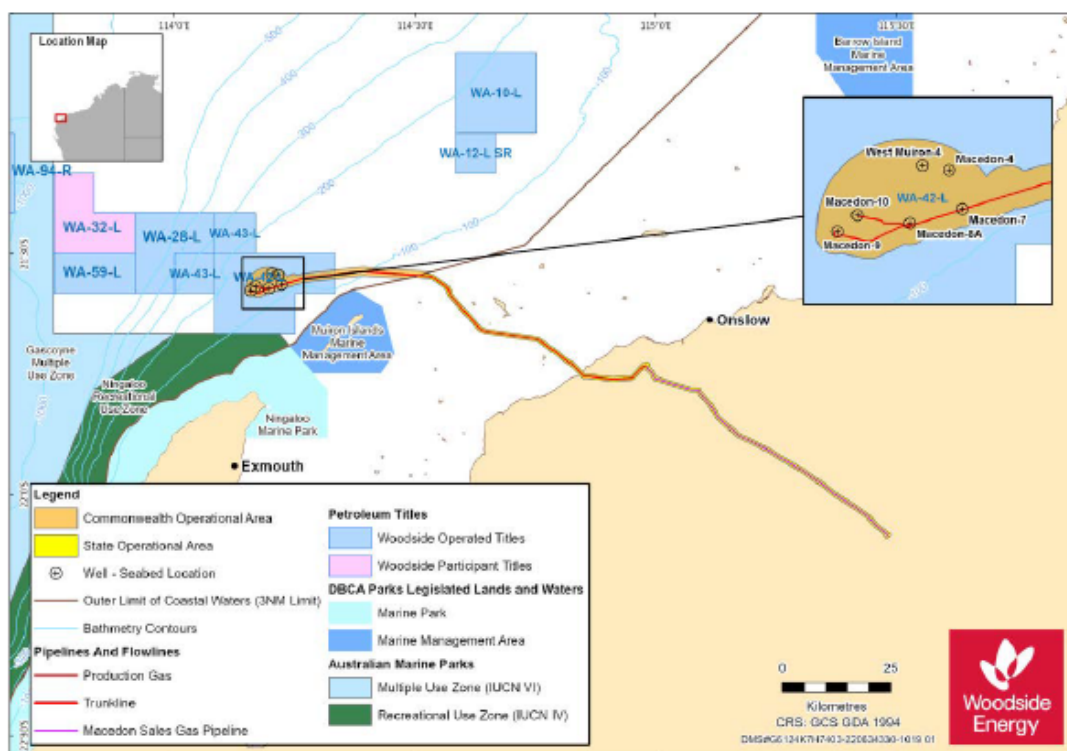


Figure 1: Macedon Infrastructure and the two Operational Areas (Commonwealth and State)

Table 1. Activity Summary

Macedon Operations Commonwealth and State Environment Plans

Summary	<ul style="list-style-type: none"> Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> Four subsea wells and pipeline located in Commonwealth waters Non-producing wells in Commonwealth waters Wet Gas Pipeline located in State waters and onshore Dry Sales Gas Pipeline located onshore Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines. Non-routine and unplanned activities and incidents associated with the above Production from, IMMRR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision. Export of gas to other fields is included within the scope of the Commonwealth EP revision.
Permit Area	<p><i>Commonwealth:</i></p> <ul style="list-style-type: none"> production licence area WA-42-L and pipeline licence WA-23-PL. <p><i>State:</i></p> <ul style="list-style-type: none"> pipeline licences TPL/23, PL 88 (wet gas pipeline) and PL 87 (dry gas pipeline)
Approximate water depth	<p><i>Commonwealth:</i></p> <ul style="list-style-type: none"> Wells: 160 to 180 m Pipeline: State/Commonwealth waters boundary – 60 m <p><i>State:</i></p> <ul style="list-style-type: none"> State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to - 40 m at the State waters boundary.
Commencement date	<ul style="list-style-type: none"> Acceptance of five year environment plan.
Approximate estimated duration	<ul style="list-style-type: none"> Next five years of operations
Infrastructure	<ul style="list-style-type: none"> Four subsea production wells, with potential fifth well Wet Gas and Dry Sales Gas Pipelines Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads
Vessels/Vehicles	<p>Commonwealth and State Marine areas:</p> <ul style="list-style-type: none"> Subsea support vessels <p>State onshore:</p> <ul style="list-style-type: none"> Operational vehicles
Operational Areas and Exclusion zones	<p><i>Commonwealth Operational Area:</i></p> <ul style="list-style-type: none"> Macedon subsea infrastructure and an area encompassing 1000 m around the infrastructure. Non-production wells and an area of 500 m around each well. An area encompassing 5000 m west, north and east of the Macedon manifold. <p><i>Commonwealth Exclusion Zones:</i></p> <ul style="list-style-type: none"> Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field. <p><i>State Operational Area:</i></p> <ul style="list-style-type: none"> Offshore: Macedon pipeline and an area of 500 m either side of the pipeline and associated subsea infrastructure from the MLWM to the Commonwealth/State water boundary. Onshore: Macedon pipeline easements/leases from the MLWM to the to the Macedon Gas Plant and from the Macedon Gas Plant to the tie in point of the Dampier to Bunbury Natural Gas Pipeline. <p><i>State Exclusion Zones:</i></p> <ul style="list-style-type: none"> None.

Macedon Operations Commonwealth and State Environment Plans

- Distance to nearest town
- Commonwealth wells:*
- 40 km north of Exmouth and 100 km west of Onslow
- Macedon Gas Plant:*
- 17 km south west of Onslow

- Distance to nearest marine park/nature reserve
- Commonwealth:*
- Ningaloo Multiple Use Zone -10 km south-west of the Operational Area boundary
 - Muiron Islands Marine Management Area -2.8 km west of Operational Area boundary
- State:*
- Ningaloo Marine Park -33 km south west of the Operational Area boundary
 - Muiron Islands Marine Management Area -8 km south west of the Operational Area boundary
 - Round Island and Locker Island Nature Reserves -1.5 km north east of the Operational Area boundary

Table 2. Approximate Locations

Activity	Water Depth (m)	Latitude	Longitude	Exclusion Zone	Permit Area
Production Wells					
Macedon 7	92	21° 33' 50.797"	114° 13' 24.173"	Yes	WA-42-L
Macedon 8A	169	21° 34' 17.460"	114° 11' 47.008"	Yes	WA-42-L
Macedon 9	160	21° 34' 33.191"	114° 09' 31.101"	Yes	WA-42-L
Macedon 10	159	21° 34' 02.297"	114° 10' 08.567"	Yes	WA-42-L
Non Producing Wells					
Macedon 4	179	21° 32' 38.114"	114° 13' 00.140"	No	WA-42-L
West Muiron 4	183	21° 32' 29.713"	114° 12' 10.561"	No	WA-42-L
Production Infrastructure					
Macedon Wet Gas Pipeline (Cth) Start Point - Manifold	166	21° 34' 22.33"	114° 11' 47.22"	Yes	WA-23-PL
Cth/State waters boundary	60	21° 32' 40.73"	114° 30' 31.62"	No	
Macedon Wet Gas Pipeline (State) Cth/State waters boundary	60	21° 32' 40.73"	114° 30' 31.62"	No	
MLWM* connection with Macedon Onshore Wet Gas Pipeline	onshore	21° 44' 53.76"	114° 50' 44.40"	No	TPL/23
Macedon Wet Gas Pipeline MLWM* connection with Macedon Onshore Wet Gas Pipeline	onshore	21° 44' 53.76"	114° 50' 44.40"	No	PL 88
Launcher/receiver at the Macedon Gas Plant		21° 43' 54.92"	114° 58' 46.91"		
Sales gas pipeline Pig launcher/receiver at the Macedon Gas Plant	onshore	21° 44' 0.19"	114° 58' 52.67"	No	PL 87
Tie in point at the DBNGP*		22° 05' 4.84"	115° 28' 48.52"		

* MLWM – Mean Low Water Mark

* DBNGP – Dampier to Bunbury Natural Gas Pipeline

Environment That May Be Affected (EMBA)

The environment that may be affected (EMBA) is the largest spatial extent where the Macedon Operations Petroleum Activities Program (PAP) could potentially have an environmental consequence (direct or indirect impact). For these EPs the broadest extent of the EMBA takes into consideration planned and unplanned activities, and is determined by a highly unlikely release of marine diesel to the environment as a result of a vessel collision. This is depicted in **Figure 2**.

The EMBA does not represent the extent of predicted impact of the highly unlikely marine diesel release. Rather, the EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the entire EMBA will not be affected and the specific and minimal part of the EMBA that is affected will only be known at the time of the release.

For these EPs Woodside has defined the EMBA by combining the potential spatial extent of surface and in-water (dissolved and entrained) hydrocarbons, resulting from a worst-case credible spill from a vessel collision. There are two EMBA's, one for each EP. As the reservoirs contain only trace liquid hydrocarbons, this means there is no credible risk of hydrocarbon spill due to well loss of integrity and only from fuel release from a vessel collision.

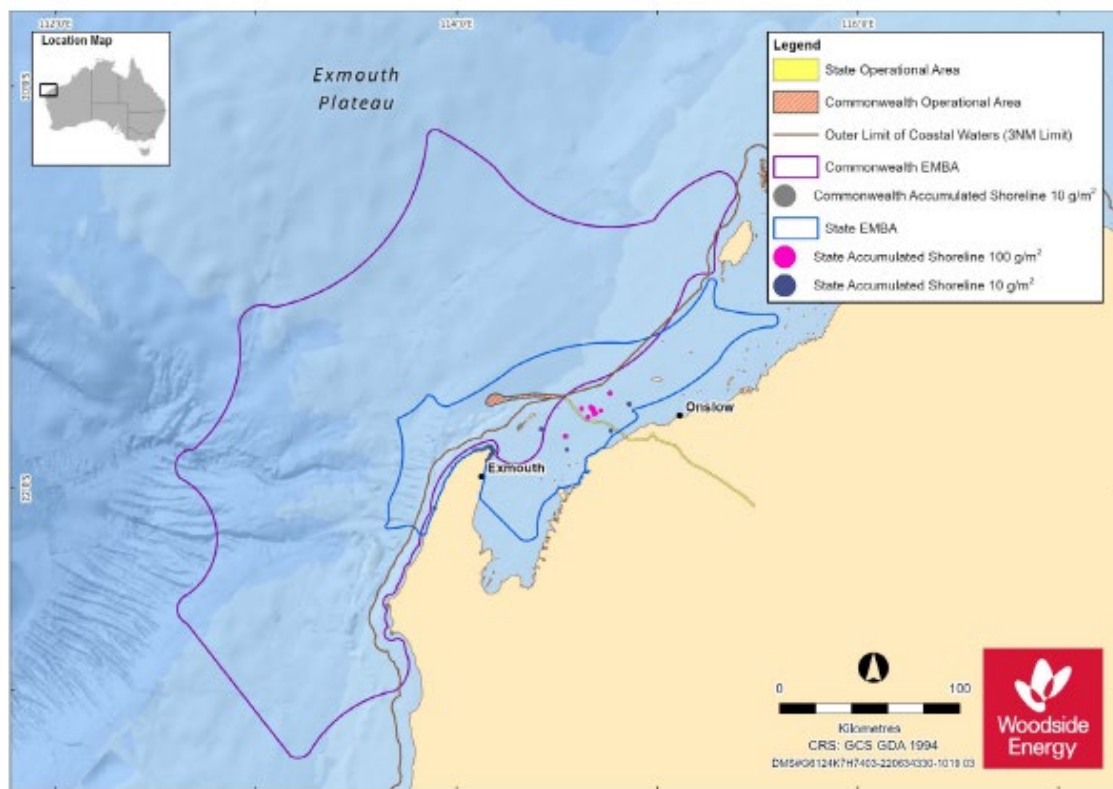


Figure 2 Environment that May Be Affected by the Macedon Operations Petroleum Activities Program

Mitigation and Management Measures

Woodside has undertaken an assessment to identify potential impacts and risks to the marine and terrestrial environment arising from the proposed Macedon Operations activities considering timing, duration, and location.

A number of mitigation and management measures for Macedon activities are outlined in **Table 3**. Further details will be provided in the two EPs.

Table 3. Summary of key risks and/or Impacts and management measures for the proposed Macedon Operations activities

Potential Risk and/or Impact	Description of Source of Potential Impact/Risk	Description of Potential Impacts	Preliminary Draft Mitigation and/or Management Measure
Planned			
Physical presence: interactions with other marine users	<ul style="list-style-type: none"> Subsea support vessels will be required to complete inspection, monitor maintenance and repair (IMMR) activities. The physical presence and movement of subsea support vessels within the Operational Area has the potential to interact other marine users. The presence of subsea infrastructure also has the potential to interact with other marine users. 	<ul style="list-style-type: none"> Other marine user vessels in the Operational Area, which may include commercial fishing, shipping, tourism, recreation and defence, may experience temporary and localised displacement during the IMMR activity. The physical presence of the subsea infrastructure has the potential to interact with other marine users such as commercial fishing where fishing methods are at or near the seabed. 	<ul style="list-style-type: none"> Subsea support vessels adhere to the regulatory requirements for navigational safety. Maintain a 500 m safety exclusion zone around wells and some subsea infrastructure, which is communicated to marine users. Notify the Australian Hydrographic Office (AHO) prior to commencement of the activity where subsea support vessel(s) will be in Operational Area (but outside the safety exclusion zone) >3 weeks to enable them to update maritime charts ensuring marine users are aware of the activity. Consult with relevant persons so they are informed of the proposed activities.
Physical presence: seabed disturbance	<p>Seabed disturbance may result from:</p> <ul style="list-style-type: none"> Equipment laydown. Movement of a Remotely Operated Vehicle (ROV) near the seabed. Addition of stabilisation aids or scour protection. 	<ul style="list-style-type: none"> Equipment laydown, ROV operations and addition of stabilisation aids or scour protection may result in highly localised physical disturbance of the seabed. 	<ul style="list-style-type: none"> Subsea support vessels will not anchor unless in an emergency. Impacts to cultural heritage areas or prospective areas to be avoided and/ or mitigated in accordance with Woodside's First Nations Communities Policy.
Routine acoustic emissions	<ul style="list-style-type: none"> Subsea support vessels will generate noise in the air and underwater due to the operation of thruster engines, propellers, and on-board machinery etc. Underwater noise may also be generated by IMMR equipment for example ROVs. 	<ul style="list-style-type: none"> Localised elevated underwater noise may affect marine fauna including marine mammals (cetaceans), turtles and fish. 	<ul style="list-style-type: none"> Comply with regulatory requirements for interactions with marine fauna to prevent adverse interactions. Implement EPBC guidance for turtles and whale sharks.
Routine and non-routine discharges: Subsea support vessels	<ul style="list-style-type: none"> Sewage, greywater, and putrescible waste may be discharged from subsea support vessels. Bilge water, deck drainage and brine and cooling water may also be discharged. 	<ul style="list-style-type: none"> Short-term, localised impacts to water quality i.e. eutrophication from the addition of nutrients from these discharge fluids. 	<ul style="list-style-type: none"> Routine marine discharges will be managed according to legislative and regulatory requirements. Chemicals that may be discharged, e.g. deck wash, will be selected with the lowest reasonably practicable environmental impacts and risks subject to technical constraints and approved through the Woodside chemical assessment process.
Routine and non-routine discharges: operational activities	<ul style="list-style-type: none"> Chemical use may be required to remove marine growth. Chemicals or residual hydrocarbons (following flushing) remaining in subsea infrastructure may be required to be released as part of IMMR activities. 	<ul style="list-style-type: none"> Localised reduction in water quality in the immediate vicinity of the release location. 	<ul style="list-style-type: none"> Chemicals intended or likely to be discharged into the marine environment reduced to ALARP using Woodside's chemical assessment process. Flush subsea infrastructure prior to repair/replacement.

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Potential Risk and/or Impact	Description of Source of Potential Impact/Risk	Description of Potential Impacts	Preliminary Draft Mitigation and/or Management Measure
Atmospheric emissions	<ul style="list-style-type: none"> Atmospheric emissions will be generated by the subsea support vessels, vehicles onshore and helicopters from internal combustion engines and incineration activities. 	<ul style="list-style-type: none"> Emissions from subsea support vessels, vehicles onshore and helicopters could result in temporary, localised reductions in air quality in the immediate vicinity. 	<ul style="list-style-type: none"> Comply with legislative and regulatory requirements for marine air pollution and emissions reporting. Manage vessel speed to reduce fuel combustion where practicable.
Light emissions	<ul style="list-style-type: none"> Subsea support vessels will use external lighting to navigate and conduct safe operations at night. Vessel lighting will also be used to communicate the vessel's presence to other marine users (i.e. navigation/ warning lights) 	<ul style="list-style-type: none"> Light emissions have the potential to affect fauna such as marine turtles and birds by influencing changes in their behaviour or impacting orientation. 	<ul style="list-style-type: none"> Compliance with Macedon's Ministerial Conditions for managing light impacts. Lighting limited to the minimum required for navigational and safety requirements, with the exception of emergency events in the offshore environment. Implementation of the Woodside Seabird Management Plan. Subsea support vessel activities being undertaken in state waters to undertake an additional light impact assessment. Vehicle operations onshore will be undertaken only during daylight hours.
Unplanned			
Unplanned hydrocarbon release: vessel collision	<ul style="list-style-type: none"> Project vessels will use marine diesel fuel, meaning a vessel collision involving a project vessel or third-party during the activity may potentially result in the release of marine diesel. For a collision to result in the worst-case scenario diesel release, several factors must occur as follows: <ul style="list-style-type: none"> Identified causes of vessel interaction must result in a collision The collision has enough force to penetrate the vessel hull and in the exact location of the fuel tank The fuel tank must be full or at least of volume which is higher than the point of penetration. 	<ul style="list-style-type: none"> In the highly unlikely event of a vessel collision causing a release of hydrocarbons, impacts to water quality and marine ecosystems could occur. Modelling of a surface release of marine diesel within the Operational Areas (State and Commonwealth) were used to understand potential locations and impacts. 	<p>Preventing vessel collision:</p> <ul style="list-style-type: none"> Comply with regulatory requirements for the prevention of vessel collisions and safety and emergency arrangements. Consult with relevant persons so that other marine users are informed and aware, reducing the likelihood of a collision. Notify the AHO prior to commencement of the activity where subsea support vessel(s) will be in Operational Area (but outside the safety exclusion zone) for >3 weeks to enable them to update maritime charts ensuring marine users are aware of the activity. Simultaneous Operations (SIMOPS) plans in place if more than one Subsea support vessel is required. <p>Spill response arrangements:</p> <ul style="list-style-type: none"> Maintain the Macedon specific Oil Pollution Emergency Plan documents (OPEPs) including first strike response plans for both the State and Commonwealth activities. Arrangements supporting OPEPs will be tested to ensure the OPEPs can be implemented as planned. Emergency response activities would be implemented in line with the OPEPs.

Potential Risk and/ or Impact	Description of Source of Potential Impact/Risk	Description of Potential Impacts	Preliminary Draft Mitigation and/or Management Measure
Unplanned hydrocarbon release: loss of well integrity	<ul style="list-style-type: none"> Accidental loss of hydrocarbons to the marine environment due to loss of well control may occur, caused by failure of well barriers. 	<ul style="list-style-type: none"> Given hydrocarbons of the Macedon reservoir contain very little liquid fraction (predominantly natural gas), there is expected to be negligible liquid component in the event of a loss of well containment. This means there is only a minor hydrocarbon spill scenario in the event of a well blowout. A loss of well control may temporarily decrease the water quality in the immediate vicinity of the release. 	<p>Preventing loss of well control</p> <ul style="list-style-type: none"> Wells managed in compliance with the accepted Well Operations Management Plan (WOMP). <p>Spill response arrangements:</p> <ul style="list-style-type: none"> Maintain the Source Control Emergency Response Plan Maintain the Macedon specific OPEPs including first strike response plans for both the State and Commonwealth activities. Arrangements supporting the OPEPs continue to be tested to ensure the OPEP can be implemented as planned. Emergency response activities would be implemented in line with the OPEP.
Unplanned discharge: deck and subsea spills	<ul style="list-style-type: none"> Accidental discharge to the ocean of hydrocarbons/ chemicals from Subsea support vessels deck activities and equipment. 	<ul style="list-style-type: none"> Unplanned discharges of non-process chemicals and hydrocarbons may decrease the water quality in the immediate vicinity of the release. Only small volumes (<100 L) would be expected to potentially occur, resulting in very short-term impacts to water quality, and limited to the immediate release location. No significant impacts from the accidental discharges described would be anticipated due to the low volumes, offshore/open water locations, and high level of dilution into the open water marine environment of the Operational Areas. 	<ul style="list-style-type: none"> Comply with regulatory requirements for the prevention of marine pollution Chemicals will be selected with the lowest reasonably practicable environmental impacts and risks subject to technical constraints and approved through the Woodside chemical assessment process. Liquid chemical and fuel storage areas are bunded or secondarily contained when they are not being handled/moved temporarily. Spill kits positioned in high-risk locations around the vessel (near potential spill points such as transfer stations).
Unplanned discharge: hazardous and non-hazardous solid waste/equipment	<ul style="list-style-type: none"> Accidental, unplanned loss of hazardous or non-hazardous solid wastes/equipment to the marine environment may occur if dropped or blown overboard. 	<ul style="list-style-type: none"> The potential impacts of hazardous or non-hazardous solid wastes and equipment accidentally discharged to the marine environment include contamination of the environment as well as secondary impacts relating to potential contact of marine fauna with wastes. The temporary or permanent loss of waste materials/equipment into the marine environment is not likely to have a significant environmental impact, based on the location of the activity, the types, size and frequency of wastes that could occur, and species present. 	<ul style="list-style-type: none"> Comply with regulatory requirements for the prevention of marine pollution and handling of hazardous wastes. Implement Waste Management Plan. Solid waste/equipment dropped to the marine environment will be recovered where safe and practicable to do so.

Potential Risk and/or Impact	Description of Source of Potential Impact/Risk	Description of Potential Impacts	Preliminary Draft Mitigation and/or Management Measure
Physical presence: vessel collision with marine fauna	<ul style="list-style-type: none"> Accidental collision between subsea support vessel and protected marine fauna. The factors that contribute to the frequency and severity of impacts due to collisions vary greatly due to vessel type, vessel operation (specific activity, speed), physical environment (e.g. water depth) and the type of animal potentially present and their behaviours. 	<ul style="list-style-type: none"> Vessel movements have the potential to result in accidental collisions between the vessel (hull and propellers) and marine fauna. The risk of vessel collision with marine mammals is present year-round but is seasonally elevated for species such as pygmy blue whales during migration periods and within migration Biologically Important Areas (BIAs). Given the short duration of planned vessel activities within the Operational Areas, and the slow speeds at which subsea support vessels operate, collisions with cetaceans are considered highly unlikely. 	<ul style="list-style-type: none"> Comply with regulatory requirements for interactions with marine fauna to reduce the likelihood of a collision occurring. Implement EPBC guidance for turtles and whale sharks.
Physical presence: vehicle collision with terrestrial fauna	<ul style="list-style-type: none"> Accidental collision between vehicle and protected terrestrial fauna. The factors that contribute to the frequency and severity of impacts vary due to vehicle type, operation (specific activity, speed), physical environment (e.g. weather conditions) and the type of animal potentially present and their behaviours. 	<ul style="list-style-type: none"> Vehicle movements have the potential to result in accidental collisions with terrestrial fauna. The risk of collision with terrestrial is present year-round but is seasonally elevated for species during breeding periods and within BIAs. Given the short duration of planned onshore activities within the Operational Areas, and the slow speeds at which vehicles operate, collisions with terrestrial are considered highly unlikely. 	<ul style="list-style-type: none"> Vehicle operations onshore will be undertaken only during daylight hours
Physical presence: seabed disturbance from dropped objects	<ul style="list-style-type: none"> Accidental objects dropped from subsea support vessels may result in seabed disturbance. Accidental loss of significant IMMR equipment. 	<ul style="list-style-type: none"> Unplanned seabed disturbance may result in localised changes to water and sediment quality or a localised temporary impact to benthic communities. 	<ul style="list-style-type: none"> Dropped objects to be recovered and relocated where safe and practicable to do so. Apply safe work procedures to prevent dropped objects from vessels and during deployment and retrieval of equipment.
Physical presence: accidental introduction and establishment of invasive marine species (IMS)	<ul style="list-style-type: none"> Vessels transiting to the Operational Areas may be subject to marine fouling whereby organisms attach to the vessel hull. Organisms may also be drawn into ballast tanks during onboarding of ballast water. Submersible equipment may be subject to marine fouling (potentially from outside region/ Australian waters). 	<ul style="list-style-type: none"> The deeper offshore open waters of the Operational Areas (>50 m) are not conducive to the settlement and establishment of IMS. There are shallower waters in the State Operational Area that may present an increased risk of IMS establishment. Given the existing Woodside and legislative controls in place, that minimise the introduction of IMS, it is considered that the likelihood for IMS to become established is remote. 	<ul style="list-style-type: none"> Ballast water and biofouling will be managed according to regulatory requirements, including the Australian Ballast Water Management Requirements, and the Australian Biofouling Management Requirements (international vessels), as applicable. Woodside's IMS risk assessment process will be applied to project vessels and immersible equipment entering the Operational Area.

9 Macedon Operations Commonwealth and State Environment Plans Information Sheet | June 2023

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Feedback

Woodside consults relevant persons in the course of preparing Environment Plans to notify them of the activity and to obtain relevant feedback to inform its planning for proposed petroleum activities in the region.

If you would like to comment on the proposed activities outlined in this information sheet, or would like additional information, please contact Woodside before 7 July 2023 via:

E: Feedback@woodside.com.au
Toll free: 1800 442 977

You can subscribe on our website to receive Consultation Information Sheets for proposed activities:

www.woodside.com/sustainability/consultation-activities.

For the Commonwealth Operations, please note that your feedback and our response will be included in our Environment Plan for the proposed activities, which will be submitted to the National Offshore Petroleum

Safety and Environment Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth)*.

For the State operations, please note that your feedback and our response will be included in our Environment Plan for the proposed activities, which will be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012 (WA)* and the *Petroleum Pipelines (Environment) Regulations 2012 (WA)*.

Please let us know if your feedback for Macedon Operations is sensitive and we will make this known to NOPSEMA or DMIRS upon submission of the EP in order for this information to remain confidential to NOPSEMA or DMIRS.

Woodside will communicate any material changes to the proposed activity to affected stakeholders as they arise.

1.34 Newspaper Ads (7 June 2023)

Midwest Times

ENVIRONMENT PLANS NOTICE

Woodside Energy (Australia) Pty Ltd (ACN 006 925 879) is proposing to conduct activities in State and Commonwealth waters as described below:

Macedon Operations Commonwealth and State Environment Plans (EP) (Macedon Joint Venture)

Activity summary:	The EP for Macedon Operations activities in Commonwealth and State waters are being revised in accordance with the five-yearly Operations EP review cycle. The continuation of Macedon operations activities includes routine production and operations and the routine inspection, monitoring, maintenance and repair activities associated with: <ul style="list-style-type: none"> • four subsea wells with potential for a fifth subsea well (located in Commonwealth waters); • two non-producing wells with wellheads (located in Commonwealth waters); • section of Wet Gas Pipeline located in Commonwealth waters; • section of Wet Gas Pipeline located in State waters and onshore; • Dry Sales Gas Pipeline located onshore. Routine operational activities also include the rehabilitation and remediation of the onshore well and dry gas pipelines. The EP also considers non-routine and unplanned activities and incidents associated with the above activities.
Location:	The Macedon gas field is located in Commonwealth waters approximately 40 km north of Exmouth and approximately 100km west of Onslow. The Macedon Gas Plant is located onshore approximately 17 km south west of Onslow in the Pilbara region of WA. A pipeline transports gas from the field to the gas plant and from the gas plant into the Gasport to Suburby Pipeline.
Commencement timing:	Following acceptance of EP
Estimated duration:	Five years of operations following EP acceptance

Woodside Energy Ltd (ACN 005 482 980) is proposing to conduct activities in Commonwealth waters as described below:

Angel Facility Operations Environment Plan (OWS Joint Venture)

Activity summary:	The EP is being revised to integrate drilling, subsea installation, commissioning and planned production from the Lambert West tie-back into the Angel production systems via the existing Lambert West subsea infrastructure. Aside from the production changes associated with Lambert West, the routine operational aspects of the EP remain the same as the existing EP and propose to extend to the Lambert West tie-back. This includes routine production and operations and the routine inspection, monitoring, maintenance and repair activities of subsea infrastructure including a number of exploration wells not linked to the production systems.
Location:	Approximately 125 km north-west of Karatha
Commencement timing:	Production at the Angel facility commenced in 2008 and is ongoing. Lambert West Drilling and tie-back: Drilling activities described in the EP are anticipated to commence around Q3 2024, subsea installation in Q4 2024, and commissioning activities in 1H 2025 pending approvals, vessel availability and weather constraints.
Estimated duration:	Angel Operations: Five years of operations following EP acceptance. Lambert West Drilling and tie-back: Approximately 60 days for drilling operations for the Lambert West well. Activities are planned to take place 24 hours, 7 days a week. Subsea installation activities are being to take approximately four weeks.

Figure 1 and Figure 2 illustrate the Operational Areas and the Environment That May Be Affected (EMBA) for Macedon and Angel, respectively. Prediction of each EMBA is based on modelling of a composite of many different parameters such as distance where a highly unlikely, unplanned oil spill event could travel, based on weather and ocean conditions.

Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned and unplanned activities. Mitigation and management measures have been developed for each of the risks and impacts identified and will be outlined in the relevant EP.

Impacts associated with Macedon Operations planned activities include the physical presence of marine vessels, vessel interaction with other marine users, seabed disturbance (such as survey equipment), noise, light, air emissions, marine discharges and onshore rehabilitation and remediation. Impacts that could occur during an unplanned event include hydrocarbon releases (marine diesel), vessel collisions with marine fauna, accidental seabed disturbance, invasive marine species, accidental loss of waste or other discharges.

Impacts associated with the Angel Operations planned activities include the physical presence of operational vessels, interaction with other marine users, seabed disturbance (such as survey equipment), noise, light, air emissions and marine discharges. Impacts directly associated with the drilling and tie-back activities include physical and chemical seabed disturbance (MODU) and project support vessels, seabed disturbance (such as infrastructure movement), drilling and completion activity (such as noise, light, air emissions and marine discharges). Impacts that could occur during an unplanned event include hydrocarbon releases (condensate or marine diesel), vessel collisions with marine fauna, seabed disturbance, invasive marine species, accidental loss of waste or other discharges.

Figure 1 and Figure 2 illustrate an indicative EMBA for Macedon Operations and Angel Operations, respectively, to support persons or organisations understanding of whether their views, interests or activities could be affected by the proposed activities, with detailed information found in Woodside's Consultation Information Sheets.



Figure 1 The indicative EMBA associated with Macedon Commonwealth and State Operations Environment Plans

Figure 2 The indicative EMBA associated with Angel Facility Operations Environment Plan

Consultation Participation and Feedback

Woodside is seeking to consult relevant persons to inform Woodside's preparation of Environment Plans (EP) for these activities. Consultation is designed to notify and obtain input from relevant persons to assist Woodside identify measures to lessen or avoid potential adverse effects of the proposed activity on the environment.

Consultation will inform the development of each EP in accordance with environmental regulations administered by the Commonwealth regulator National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) under the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGSA) and State regulator Department of Mines, Industry, Regulation and Safety (DMIRS) in accordance with the Petroleum (Submerged Lands) (Environment) Regulations 2012 (WA), and the Petroleum Pipelines (Environment) Regulations 2012 (WA) and support other regulatory submissions associated with the planned activities.

Detailed consultation information sheets are available at: www.woodside.com/sustainability/consultation-activities. You can also subscribe via our website to receive future information on proposed activities.

NOPSEMA has published a brochure entitled Consultation on offshore petroleum environment plans - information for the Community, to help community members who may be relevant persons understand the consultation requirements and how to effectively participate in consultation, which is available at: www.nopsema.gov.au

If you would like to comment on the proposed activities outlined above, please contact Woodside before 7 July 2023 via:

© Feedback@woodside.com
Tel: +61 8 9422 4422



Macedon Operations Commonwealth and State Environment Plans



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PUBLIC NOTICES

Shire of EAST Pilbara
THE HEART OF THE PILBARA

Notice of 2021/22 General Meeting of Electors

7 June 2023

Notice is hereby given that the 2021/22 Annual Meeting of Electors of the Shire of East Pilbara will be held on Friday, 30 June 2023 commencing at 10.30 am at the Newman Council Chambers, corner Kalgan and Newman Drives, Newman.

The purpose of the General Electors' Meeting is to discuss the contents of the annual report for the 2021/22 financial year and then any other general business.

The agenda for the Annual Meeting of Electors will be available to the public prior to the date of the meeting at the Shire's website: www.eastpilbara.wa.gov.au.

All members of the community are invited to attend and participate in the Shire's 2021/22 General Meeting of Electors.

For further information, please contact 08 9175 8000.

Steven Harding
Chief Executive Officer

Town of Port Hedland Local Government Act 1995, Section 3.5B Disposal of Property

The Town of Port Hedland Council is proposing to dispose of the following property by way of sale to the following party in accordance with section 3.5B (3) of the Local Government Act 1995 (private treaty) on the following terms and conditions:

Lot Number	Prospective Purchaser	Offer To Purchase	Valuation
Lot 209 Roberts Street, North Hedland, WA 6722 and Lot 5071 Hamilton Road, South Hedland, WA, 6722	Tower River Developments Pty Ltd	\$980,000.00 ex GST	\$860,000.00 ex GST

Submissions are invited for Council consideration on the proposed disposal. Submissions are to be received by email to epanning@porthedland.wa.gov.au or post addressed to: Chief Executive Officer, PO Box 41, Port Hedland WA 6721 before close of business **Wednesday, 14 June 2023**.

Carl Askew
Chief Executive Officer

Town of Port Hedland Rating Strategy 2023/24

The Town of Port Hedland gives notice to ratepayers that it has endorsed the rating strategy for 2023/24, encompassing the below proposed differential rates and minimum payments.

Ratepayers and electors are invited to view the 2023/24 Statement of Objects and Reasons for the proposed rating changes on the Town of Port Hedland website, or at the Town of Port Hedland Civic Centre, McGregor Street, Port Hedland.

Submissions are invited prior to 5:00pm 20 June 2023. Submissions should be addressed to the Chief Executive Officer, Town of Port Hedland, PO Box 41 Port Hedland WA 6721 and be clearly marked Submission - Rating Strategy 2023/24. Alternatively, submissions can be emailed to council@porthedland.wa.gov.au.

Rate Category	2023/24 Current Rate in the Dollar	2023/24 Proposed Rate in the Dollar	2023/24 Proposed Rate as a % of Current Rate	2023/24 Proposed Rate as a % of Current Rate
Domestic Residential	\$ 8,354	\$ 8,354	100%	100%
Commercial/Industrial	\$ 4,607	\$ 4,607	100%	100%
Public	\$ 1,126	\$ 1,126	100%	100%
Other	\$ 2,521	\$ 2,521	100%	100%

Please note: The public notice in the 24th May edition of the North West Telegraph was incorrect.

Shire of EAST Pilbara
THE HEART OF THE PILBARA

Notice of 2021/22 Annual Report Available to the Public

7 June 2023

Pursuant to section 5.55 of the Local Government Act 1995, local public notice is hereby given that the Shire of East Pilbara 2021/22 Annual Report has been accepted by the Council and is available to access by the public at the Shire's website: www.eastpilbara.wa.gov.au and Shire Offices in Newman and Marble Bar.

For further information, please contact 08 9175 8000.

Steven Harding
Chief Executive Officer

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ENVIRONMENT PLANS NOTICE

Woodside Energy (Australia) Pty Ltd (ACN 006 923 879) is proposing to conduct activities in State and Commonwealth waters as described below:

Macedon Operations Commonwealth and State Environment Plans (EPs) (Macedon Joint Venture)

Activity summary: The EPs for Macedon Operations activities in Commonwealth and State waters are being revised in accordance with the five-yearly Operations EP review cycle. The continuation of Macedon operations activities includes routine production and operations and the routine inspection, monitoring, maintenance and repair activities associated with:

- four subsea wells with potential for a 9th subsea well (located in Commonwealth waters);
- two non-producing wells with wellheads (located in Commonwealth waters);
- section of Wet Gas Pipeline located in Commonwealth waters;
- section of Wet Gas Pipeline located in State waters and onshore;
- Dry Sales Gas Pipeline located onshore.

Routine operational activities also include the rehabilitation and remediation of the onshore wet and dry gas pipelines. The EP also considers non-routine and unplanned activities and incidents associated with the above activities.

Location: The Macedon gas field is located in Commonwealth waters approximately 40 km north of Exmouth and approximately 100 km west of Onslow. The Macedon Gas Plant is located onshore approximately 17 km south west of Onslow in the Pilbara region of WA. A pipeline transports gas from the field to the gas plant and then the gas plant into the Damper to Burbury Pipeline.

Commencement timing: Following acceptance of EP.

Estimated duration: Five years of operations following EP acceptance.

Woodside Energy Ltd (ACN 005 482 986) is proposing to conduct activities in Commonwealth waters as described below:

Angel Facility Operations Environment Plan (WAS Joint Venture)

Activity summary: The EPs proposed to integrate drilling, subsea production, commissioning and planned production from the Lambert West tie-back into the Angel production systems via the existing Lambert Deep subsea infrastructure.

As part of the production changes associated with Lambert West, the routine operational aspects of the EP remain the same as the existing EP and proposed to be added to the Lambert West tie-back. This includes routine production and operations and the routine inspection, monitoring, maintenance and repair activities. The EP also includes a number of exploration wells not linked to the production systems.

Location: Approximately 125 km north west of Karratha.

Commencement timing: Angel Operations Production at the Angel facility commenced in 2006 and is ongoing.

Lambert West Drilling and Tie-back: Drilling from the Lambert West EP was anticipated to commence in Q1 2024, subsea installation in Q4 2024 and decommissioning activities in H1 2026 pending approvals, vessel availability and weather constraints.

Estimated duration: Five years of operations following EP acceptance.

Lambert West Drilling and Tie-back: Approximately 60 21/8" for drilling operations for the Lambert West well. Activities are planned to take place 24 hours, 7 days a week. Decommissioning activities are likely to take approximately four weeks.

Figure 1 and Figure 2 illustrate the Operations Areas within the Critical To Be Affected (CTBA) for Macedon and Angel, respectively. The CTBA for each EMGA is a baseline model of a range of many different paths and further distance where a High Winds, and/or an event cloud travel, based on weather and ocean conditions.

Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned and unplanned activities. Mitigation and management measures have been developed for each of the risks and impacts identified and will be outlined in the relevant EP.

Impacts associated with Macedon Operations planned activities include the physical presence of marine vessels, vehicles, and other marine users, seabed disturbance (such as survey equipment), noise, light, air emissions and marine discharges. Impacts that could occur due to an unplanned event include hydrocarbon releases (marine diesel), vessel collisions with marine fauna, additional seabed disturbance, invasive marine species, accidental loss of waste or other discharges.

Impacts associated with the Angel Operations planned activities include the physical presence of operational vessels, interaction with other marine users, seabed disturbance (such as survey equipment), noise, light, air emissions and marine discharges. Impacts directly associated with the drilling and tie-back activities include physical presence of Mobile Offshore Drilling Unit (MODU) and project support vessels, seabed disturbance (such as infrastructure placement), drilling and construction impacts (such as noise, light, air emissions and marine discharges). Impacts that could occur due to an unplanned event include hydrocarbon releases (marine diesel), vessel collisions with marine fauna, additional seabed disturbance, invasive marine species, accidental loss of waste or other discharges.

Figure 1 and Figure 2 illustrate an indicative EMGA for Macedon Operations and Angel Operations, respectively, to support persons or organisations understanding of whether their functions, interests or activities may be affected by the proposed activities, with detailed information found in Woodside's Consultation Information Sheets.



Figure 1 The indicative EMGA associated with Macedon Commonwealth and State Operations Environment Plans. **Figure 2** The indicative EMGA associated with Angel Facility Operations Environment Plan.

Consultation Participation and Feedback

Woodside is seeking to consult relevant persons to inform Woodside's preparation of Environment Plans (EPs) for these activities. Consultation is designed to notify and obtain input from relevant persons to assist Woodside identify measures to lessen or avoid potential adverse effects of the proposed activity on the environment.

Consultation will inform the development of each EP in accordance with environmental regulations administered by the Commonwealth regulator National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) under the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGSA) and State regulator Department of Mines, Industry, Regulation and Safety (DMIRS) in accordance with the Petroleum (Submerged Lands) (Environment) Regulations 2012 (WA) and the Petroleum Pipelines (Environment) Regulations 2012 (WA) and support other regulatory submissions associated with the planned activities.

Detailed consultation information sheets are available at: www.woodside.com.au/sustainability/consultation-activities. You can also subscribe via our website to receive future information on proposed activities.

NOPSEMA has published a brochure entitled Consultation on offshore petroleum environment plans - Information for the Community, to help community members who may be relevant persons understand the consultation requirements and how to participate. Please visit www.nopsema.gov.au for more information.

Figure 1 and **Figure 2** illustrate an indicative EMGA for Macedon Operations and Angel Operations, respectively, to support persons or organisations understanding of whether their functions, interests or activities may be affected by the proposed activities, with detailed information found in Woodside's Consultation Information Sheets.

Figure 1 The indicative EMGA associated with Macedon Commonwealth and State Operations Environment Plans. **Figure 2** The indicative EMGA associated with Angel Facility Operations Environment Plan.

Pilbara News

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PUBLIC NOTICES



Shire of Ashburton Proposal to Dispose of Property – Lease: Portion Of Lot 550 on DP 414367 Onslow Road, Onslow

Disposal under section 358 of the Local Government Act 1995 (WA)

Notice is hereby given that the Shire of Ashburton proposes to dispose of a portion of property as follows:

- Lessee: C.D. Dodd Scrap Metal Recyclers T/A Dodd Group Pty Ltd
- Property: 4 ha (approximate) portion of Lot 550 on DP 414367 Onslow Road, Onslow (Pilbara Regional Waste Management Facility)
- Term: Seven (7) years commencing on the execution of the Lease, plus two options of five (5) years
- Rental: \$100,000 + GST per annum
- Market Valuation: \$101,500 + GST per annum

Written public submissions are invited on the proposed disposition and should be addressed to:

Chief Executive Officer, Shire of Ashburton, PO Box 567, Tom Price, Western Australia 6751 or malloaso@ashburton.wa.gov.au by 4:00pm on Wednesday 21 June 2023.

Kenn Donohoe
Chief Executive Officer

www.ashburton.wa.gov.au

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ENVIRONMENT PLANS NOTICE

Woodside Energy (Australia) Pty Ltd (ACN 006 422 879) is proposing to conduct activities in State and Commonwealth waters as described below:

Macedon Operations Commonwealth and State Environment Plans (EPs) (Macedon Joint Venture)

Activity summary:	The EPs for Macedon Operations activities in Commonwealth and State waters are being revised in accordance with the five-yearly Operations EP review cycle. The continuation of Macedon operations activities includes routine production and operations and the routine inspection, monitoring, maintenance and repair activities associated with: <ul style="list-style-type: none"> • four subsea wells with potential for a fifth subsea well (located in Commonwealth waters); • two non-producing wells with wellheads (located in Commonwealth waters); • section of Wet Gas Pipeline located in Commonwealth waters; • section of Wet Gas Pipeline located in State waters and onshore; • Dry Sales Gas Pipeline located onshore. Routine operational activities also include the rehabilitation and remediation of the onshore wet and dry gas pipelines. The EP also considers non-routine and incidental activities and incidents associated with the above activities.
Location:	The Macedon gas field is located in Commonwealth waters approximately 40 km north of Onslow and approximately 100 km west of Onslow. The Macedon Gas Plant is located onshore approximately 17 km south west of Onslow in the Pilbara region of WA. A pipeline transports gas from the field to the gas plant and from the gas plant into the Damper to Bunbury Pipeline.
Commencement timing:	Following acceptance of EP.
Estimated duration:	Five years of operation following EP acceptance.

Woodside Energy Ltd (ACN 005 482 986) is proposing to conduct activities in Commonwealth waters as described below:

Angel Facility Operations Environment Plan (OWS Joint Venture)

Activity summary:	The EP is being revised to integrate drilling, subsea installation, commissioning and planned production from the Lambert West tie-back into the Angel production systems via the existing Lambert Onshore subsea infrastructure. Aside from the production changes associated with Lambert West, the routine operational aspects of the EP remain the same as the existing EP and specifically include the Lambert West tie-back. This includes routine production and operations and the routine inspection, monitoring, maintenance and repair activities of subsea infrastructure including a number of expansion wells not linked to the production systems.
Location:	Approximately 25 km north-west of Karratha.
Commencement timing:	Angel Operations Production at the Angel facility commenced in 2008 and is ongoing. Lambert West Drilling and tie-back Drilling activities described in the EP are anticipated to commence around Q4 2024, subsea installation in Q4 2024 and commissioning activities in H1 2025 pending approvals, vessel availability and weather conditions.
Estimated duration:	Angel Operations: Five years of operation following EP acceptance. Lambert West Drilling and tie-back: Approximately 60 days for drilling operations for the Lambert West well. Activities are planned to take place 24 hours, 7 days a week. Subsea installation activities are likely to take approximately four weeks.

Figure 1 and Figure 2 illustrate the Operational Areas within the Environment Plan that May Be Affected (EMBA) for Macedon and Angel, respectively. In addition, each EMBA is based on modelling of a large number of many different paths and further distance where a highly unlikely, but possible, oil spill event could travel, based on weather and ocean conditions.

Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both the proposed and existing activities. Mitigation and management measures have been developed for each of the risks and impacts identified and will be outlined in the relevant EP.

Impacts associated with Macedon Operations planned activities include the physical presence of marine vessels, vehicles, interaction with other marine users, seabed disturbance (such as survey equipment), noise, light, air emissions, marine discharges and onshore rehabilitation and remediation. Impacts that could occur due to an unplanned event include hydrocarbon releases (flaring, gas), vessel collisions with marine fauna, additional seabed disturbance, invasive marine species, accidental loss of hydrocarbon discharges.

Impacts associated with the Angel Operations planned activities include the physical presence of operational vessels, interaction with other marine users, seabed disturbance (such as survey equipment), noise, light, air emissions and marine discharges, impacts directly associated with the drilling and tie-back activities include physical presence of Mobile Offshore Drilling Unit (MODU) and project support vessels, seabed disturbance (such as infrastructure placement), drilling and construction impacts (such as noise, light, air emissions and marine discharges). Impacts that could occur due to an unplanned event include hydrocarbon releases (condensate or marine diesel), vessel collisions with marine fauna, additional seabed disturbance, invasive marine species, accidental loss of waste or other discharges.

Figure 1 and Figure 2 illustrate an indicative EMBA for Macedon Operations and Angel Operations, respectively, to support persons or organisations understanding of whether their functions, interests or activities may be affected by the proposed activities, with detailed information found in Woodside's Consultation Information Sheets.



Figure 1 The indicative EMBA associated with Macedon Commonwealth and State Operations Environment Plans

Figure 2 The indicative EMBA associated with Angel Facility Operations Environment Plan

Consultation Participation and Feedback

Woodside is seeking to consult relevant persons to inform Woodside's preparation of Environment Plans (EPs) for these activities. Consultation is designed to notify and obtain input from relevant persons to assist Woodside identify measures to lessen or avoid potential adverse effects of the proposed activity on the environment.

Consultation will inform the development of each EP in accordance with environmental regulations administered by the Commonwealth regulator National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) under the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGSA) and State regulator Department of Mines, Industry, Regulation and Safety (DMIRS) in accordance with the Petroleum (Submerged Lands) (Shorewaters) Regulations 2002 (WA), and the Petroleum Pipelines (Shorewaters) Regulations 2012 (WA), and support other regulatory submissions associated with the planned activities.

Detailed consultation information sheets are available at: www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on proposed activities.

NOPSEMA has published a brochure entitled Consultation on offshore petroleum environment plans – Information for the Community, to help community members who may be relevant persons understand the consultation requirements and how to participate. This is available at: www.nopsema.gov.au



Macedon Operations Commonwealth and State Environment Plans



Angel Facility Operations Environment Plan

Local Govt. Tenders

City of Melville
MP232320 Change Plans Upgrade, Melville Tenders
Offers are invited from suitably qualified and experienced contractors for the above project.
A copy of the Request for Tender (RFT) may be obtained by contacting the tender officer on the following contact details:
Tender Officer: [Name] [Phone] [Email]
RFT No. MP232320
Thursday 08 July 2023

CITY OF BUNBURY

Request for Tender
The City of Bunbury is seeking tenders for the supply and installation of CCTV surveillance systems for the City of Bunbury.
RFT No. 2023-01
CCTV Surveillance System
The City of Bunbury is seeking tenders for the supply and installation of CCTV surveillance systems for the City of Bunbury.
RFT No. 2023-01
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RFT No. 2023-01
CCTV Surveillance System

TENDERS ARE INVITED FOR THE SERVICES BELOW:

ALLIED HEALTH SERVICE PERSONNEL
(Casual Care - aged & Disabled Services)
Tender No. RPT 14-2023
Deadline: 5:00PM (AEST) Tuesday, 20 June 2023
Tender Documents & Contract Requirements are available from the City of Wanneroo.
Tender Enquiries: Ms Penny May, Training & Procurement Services, City of Wanneroo.
Tender & Lodgement: City of Wanneroo.
AS electronic tenders are invited from suitably qualified and experienced contractors for the above project.

SHIRE OF CARL

Tender 23-08 Engineering Technical Services - Design Support
The Shire of Carlisle is seeking the services of suitably qualified engineering consultants to develop and assist in the design and construction of the proposed project.
A copy of the Request for Tender (RFT) may be obtained by contacting the tender officer on the following contact details:
Tender Officer: [Name] [Phone] [Email]
RFT No. 23-08
Thursday 08 July 2023

SHIRE OF WILUNA

RFT No. 2023-01
CCTV Surveillance System
The Shire of Wiluna is seeking tenders for the supply and installation of CCTV surveillance systems for the Shire of Wiluna.
RFT No. 2023-01
CCTV Surveillance System

CITY OF MANDURAH

Supply and Delivery of Concrete Drainage Products
Request for Tender 01-2023
The City of Mandurah is seeking tenders for the supply and delivery of concrete drainage products for the City of Mandurah.
RFT No. 01-2023
Concrete Drainage Products
The City of Mandurah is seeking tenders for the supply and delivery of concrete drainage products for the City of Mandurah.
RFT No. 01-2023
Concrete Drainage Products

Local Govt. Vacancies

SHIRE OF COORNE
Assistant & Project Manager - Concrete Works
The Shire of Coornewald is seeking an Assistant & Project Manager for the Concrete Works Department.
Interested parties should contact the Human Resources Officer on the following contact details:
HR Officer: [Name] [Phone] [Email]
RFT No. 23-08
Thursday 08 July 2023

Town of Coornewald

Public Notice
The Town of Coornewald is seeking tenders for the supply and delivery of concrete drainage products for the Town of Coornewald.
RFT No. 23-08
Concrete Drainage Products

Local Govt. Notices

CITY OF GORNELL
DEPOSITION OF PROPERTY
The City of Gornell is seeking tenders for the supply and delivery of concrete drainage products for the City of Gornell.
RFT No. 23-08
Concrete Drainage Products

Town of Coornewald

Public Notice
The Town of Coornewald is seeking tenders for the supply and delivery of concrete drainage products for the Town of Coornewald.
RFT No. 23-08
Concrete Drainage Products

ENVIRONMENT PLANS NOTICE

Woodside Energy (Australia) Pty Ltd (ACN 006 823476) is proposing to conduct activities in State and Commonwealth waters as described below:
Macedon Operations Commonwealth and State Environment Plans (EPs) (Macedon Joint Venture)
The EPs for Macedon Operations activities in Commonwealth and State waters are being revised in accordance with the five-yearly Operations EP Review cycle. The continuation of Macedon operations activities includes routine production and operations and the routine inspection, monitoring, maintenance and repair activities associated with:
- four subsea wells with potential for a fifth subsea well (located in Commonwealth waters);
- two non-producing wells with wellheads (located in Commonwealth waters);
- section of Wet Gas Pipeline located in Commonwealth waters;
- section of Wet Gas Pipeline located in State waters and onshore;
- Dry Sales Gas Pipeline located onshore.
Routine operational activities also include the rehabilitation and remediation of the onshore well and dry gas pipelines. The EP also considers non-routine and unplanned activities and incidents associated with the above activities.
Location: The Macedon gas field is located in Commonwealth waters approximately 40 km north of Perth and approximately 500 km west of Onslow. The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow in the Pilbara region of WA. A pipeline transports gas from the field to the gas plant and from the gas plant to the Comper to Sullbury Pipeline.
Commencement: Following acceptance of EP
Estimated duration: Five years of operations following EP acceptance

Woodside Energy Ltd (ACN 005 402 984) is proposing to conduct activities in Commonwealth waters as described below:
Angel Facility Operations Environment Plan (WAG Joint Venture)

The EP is being revised to include the drilling, rework installation, commissioning and planned production activities for the WAG Joint Venture. The Angel production systems via the existing Lambert West Development.
Aside from the proposed changes associated with Lambert West, the routine operational aspects of the EP remain the same as the existing EP and propose to extend to the Lambert West tie-back. The proposed changes include the routine inspection, monitoring, maintenance and repair activities associated with:
- subsea infrastructure including number of explosion wells, non-flammable gas systems.
Location: Approximately 60 km north-west of Karratha
Commencement: Following acceptance of EP
Estimated duration: Five years of operations following EP acceptance

Figure 1 and Figure 2 illustrate the Operational Areas and the Environment That May Be Affected (OTMBA) for Macedon and Angel, respectively. The OTMBA for each DMSA is based on modelling of a composite of many different paths and further distance where a spill may be expected to occur, based on weather and ocean conditions.

Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned and unplanned activities. Mitigation and management measures have been developed for each of the risks and impacts identified and will be outlined in the relevant EP.

Impacts associated with Macedon Operations planned activities include the physical presence of marine vessels, vehicles, interaction with other marine users, seabed disturbance (such as survey equipment), noise, light, air emissions, marine discharges and onshore installation and remediation. Impacts that could occur due to an unplanned event include hydrocarbon releases (planned diesel), vessel collisions with marine fauna, additional seabed disturbance, invasive marine species, accidental loss of waste or other discharges.

Impacts associated with the Angel Operations planned activities include the physical presence of operational vessels, interaction with other marine users, seabed disturbance (such as survey equipment), noise, light, air emissions and marine discharges. Impacts directly associated with the drilling and tie-back activities include physical presence of Mobile Offshore Drilling Unit (MODU) and project support vessels, seabed disturbance (such as infrastructure placement), drilling and construction impacts (such as noise, lights, air emissions and marine discharges). Impacts that could occur due to an unplanned event include hydrocarbon releases (planned diesel or marine diesel), vessel collisions with marine fauna, additional seabed disturbance, invasive marine species, accidental loss of waste or other discharges.

Figure 1 and **Figure 2** illustrate an indicative OTMBA for Macedon Operations and Angel Operations, respectively, to support persons or organisations understanding of whether their functions, interests or activities may be affected by the proposed activities, with detailed information found in Woodside's Consultation Information Sheets.

Figure 1 The indicative OTMBA associated with Macedon Commonwealth and State Operations Environment Plans

Figure 2 The indicative OTMBA associated with Angel Facility Operations Environment Plan

Consultation Participation and Feedback

Woodside is seeking to consult relevant persons to inform Woodside's preparation of Environment Plans (EPs) for these activities. Consultation is designed to notify and obtain input from relevant persons to assist Woodside identify measures to lessen or avoid potential adverse effects of the proposed activities on the environment.

Consultation will inform the development of each EP in accordance with environmental regulations administered by the Commonwealth regulator National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) under the Offshore Petroleum and Greenhouse Gas Storage Act 2020 (OPGSA) and State regulator Department of Mines, Industry Regulation and Safety (DMIRS) in accordance with the Petroleum (Submerged Lands) (Environment) Regulations 2020 (PSEL) and the Petroleum Pipelines (Environment) Regulations 2020 (PEL) and support other regulatory submissions associated with the planned activities.

Detailed consultation information sheets are available at www.woodside.com/australia/consultation-activities. You can also subscribe to our website to receive future information on proposed activities.

NOPSEMA has published a brochure entitled Consultation on offshore petroleum environment plans - Information for the Community to help community members who may be relevant persons understand the consultation requirements and how to participate. You can access this brochure at www.nopsema.gov.au.

NOTICE OF INTENTION TO AMEND CLASS 'A' RESERVE 12439 BRAZIER ROAD YANCHEP - CITY OF WANNEROO

LAND ADMINISTRATION ACT 1997 (LAA)
I, Anthony Kannis, Director General, Department of Planning, Lands and Heritage under delegation of Minister for Lands, give notice pursuant to section 42(5) of the Land Administration Act 1997 (LAA), that it is intended to act in relation to Class 'A' Reserve 12439.

It is proposed to excise a total of 780sqm of Class 'A' Reserve, 12439, currently set aside for the purpose of 'Recreation Act 43-1968' for subsequent amalgamation into adjoining Class 'C' Reserve 43792 for the purpose of 'Recreation'. Excision of the abovementioned portion of reserves will rationalise existing boundaries to reflect existing land uses and the immediate surrounds.

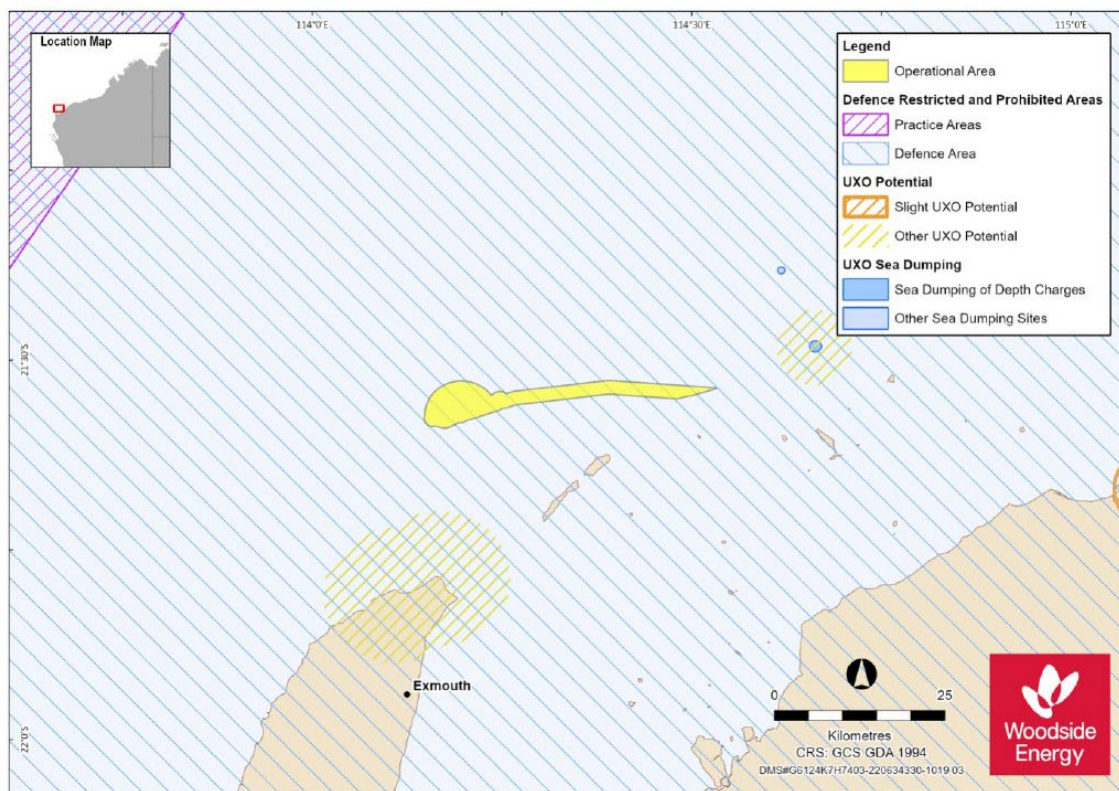
Prior to proceeding with this action, you have the opportunity to provide comments on the proposal within 30 days of the publication of this notice. To enable your comments to be taken into account, or to arrange a viewing of the relevant plans, please contact Maritza Nozari via maritza.nozari@dph.wa.gov.au following reference numbers:
File No. 02296-1935

1.35 State shipwrecks sent to Department of Planning, Lands and Heritage and Western Australian Museum (DPLH) and Western Australian Museum (28 June 2023)

NAME	WHEN_LOST	WHERE_LOST	LONGITUDE	LATTUDE
Perth SS	1887/09/17	Point Cloates	-22.6942	113.6403
Stefano	1875/10/27	Point Cloates	-22.8288	113.7195
Zvir SS	27/11/1902	Point Cloates	-22.6092	113.626
Fin SS	15/02/1923	Point Cloates, Fraser Island	-22.6488	113.6268
Lady Ann	18/09/1982	24 miles north of NW Cape	-21.4	114.2

1.36 Defence zone map sent to Department of Defence (DoD) (28 June 2023)

Operational Area



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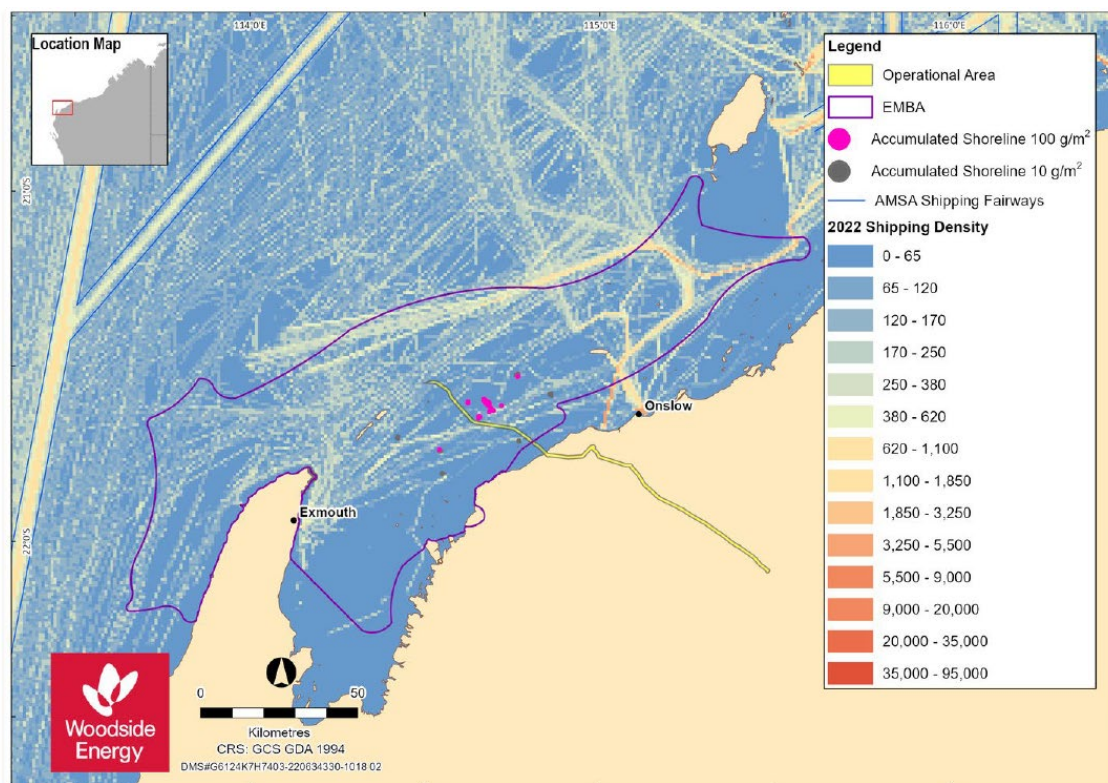
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1.37 Shipping lane map and GIS Shape File sent to AMSA and AHO (28 June 2023)



State - Macedon

1.38 Email sent to Ningaloo Coast World Heritage Advisory Committee (NCWHAC) (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

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Macedon Operations Commonwealth Environment Plan

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters 	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines. Non-routine and unplanned activities and incidents associated with the above.

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	<p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
Approx. Water Depth (m)	<p>Wells: ~160 to 180 m</p> <p>Pipeline: State/Commonwealth waters boundary ~ 60 m</p>	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	

Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.39 Email sent to Wirrawandi Aboriginal Corporation (WAC) (20 June 2023)

Dear [REDACTED]

Further to [REDACTED] correspondence (18-May-23) with you regarding Woodside’s Julimar Development Project Phase 3 (JDP3) wells and subsea infrastructure, please find attached information about two additional activities:

Macedon Operations Commonwealth Environment Plan

- Angel Facility Operations – Woodside is planning to revise and resubmit the Angel Facility Operations EP to integrate drilling, subsea installation commissioning and production from the Lambert West Field, located around 126 km north-north-west of Dampier.
- Macedon Operations – Woodside is submitting a five yearly revision of the Macedon Operations Commonwealth and State EPs in accordance with State and Commonwealth Regulations. The Macedon gas field is located approximately 40 km north of Exmouth and 100 km west of Onslow.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EPs.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

- [lambert-west.pdf \(woodside.com\)](#)
- [macedon.pdf \(woodside.com\)](#)

Woodside is seeking to understand the nature of the interests that WAC and its members may have in the ‘environment that may be affected’ (EMBA) by these activities. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activities could impact your interests and activities and/or your cultural values
- your concerns about the proposed activities and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **21 July 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government’s National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to WAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with WAC members, the WAC Board and office holders and other interested parties.

We look forward to hearing from you.

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As always, please be in contact if you require further information and if Woodside can assist WAC in any way to participate in these processes.

P.S. [REDACTED] is currently on leave and I am filling in for [REDACTED]

Regards

1.40 Email sent to Robe River Kuruma Aboriginal Corporation (20 June 2023)

Dear [REDACTED]

Further to [REDACTED] correspondence (18-May-23) with you regarding Woodside's Julimar Development Project Phase 3 (JDP3) wells and subsea infrastructure and the Goodwyn A Infill Geophysical and Geotechnical Surveys, please find attached information about two additional activities:

- Angel Facility Operations – Woodside is planning to revise and resubmit the Angel Facility Operations EP to integrate drilling, subsea installation commissioning and production from the Lambert West Field, located around 126 km north-north-west of Dampier.
- Macedon Operations – Woodside is submitting a five yearly revision of the Macedon Operations Commonwealth and State EPs in accordance with State and Commonwealth Regulations. The Macedon gas field is located approximately 40 km north of Exmouth and 100 km west of Onslow.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EPs.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

- [lambert-west.pdf \(woodside.com\)](#)
- [macedon.pdf \(woodside.com\)](#)

Woodside is seeking to understand the nature of the interests that Robe River Kuruma Aboriginal Corporation (RRKAC) and its members may have in the 'environment that may be affected' (EMBA) by these activities. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activities could impact your interests and activities and/or your cultural values
- your concerns about the proposed activities and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **21 July 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to RRKAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with RRKAC members, the RRKAC Board and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist RRKAC in any way to participate in these processes.

P.S. [REDACTED] is currently on leave and I am filling in for [REDACTED]

Regards

1.41 Email sent to Shire of Exmouth (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

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Macedon Operations Commonwealth Environment Plan

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters 	Routine production Routine inspection, monitoring, maintenance and repair (IMMR) activities of the: <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines. Non-routine and unplanned activities and incidents associated with the above.

	<p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
Approx. Water Depth (m)	<p>Wells: ~160 to 180 m</p> <p>Pipeline: State/Commonwealth waters boundary ~ 60 m</p>	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	

Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.42 Email to Shire of Carnarvon (28 June 2023)

Dear [REDACTED]

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

Macedon Operations Commonwealth Environment Plan

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	Routine production Routine inspection, monitoring, maintenance	Routine production

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	<p>and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>
Approx. Water Depth (m)	<p>Wells: ~160 to 180 m</p> <p>Pipeline: State/Commonwealth waters boundary ~ 60 m</p>	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary

Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **27 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.43 Email sent Exmouth Community Liaison Group (28 June 2023)

Dear Exmouth Community Liaison Group

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

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	Commonwealth EP	State EP
Summary	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<p><i>Commonwealth wells:</i></p> <p>~40 km north of Exmouth and 100 km west of Onslow</p>	<p><i>Macedon Gas Plant:</i></p> <p>~ 17 km south-west of Onslow</p>

Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **27 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the

Petroleum (Submerged Lands) (Environment) Regulations 2012 (WA) and the Petroleum Pipelines (Environment) Regulations 2012 (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.44 Email sent to Carnarvon Chamber of Commerce and Industry (28 June 2023)

Dear Carnarvon Chamber of Commerce and Industry

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
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- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

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An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

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If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p> <p>Export of gas to other fields is included within the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87

Macedon Operations Commonwealth Environment Plan

Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads Section of pipeline in Commonwealth waters	Pipeline in State waters and onshore Umbilical in State waters and onshore
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **27 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

1.45 GIS Shape files sent to Chevron Australia, Osaka Gas Gorgon, Tokyo Gas Gorgon, JERA Gorgon, (28 June 2023)

1.46 Email sent to Chevron Australia, Osaka Gas Gorgon, Tokyo Gas Gorgon, JERA Gorgon (28 June 2023)

Dear Chevron

Woodside is planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
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Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

We would be grateful if you could please forward this consultation information to your Joint Venture participants Osaka Gas Gorgon, Tokyo Gas Gorgon and JERA Gorgon for feedback.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Activity: Macedon Operations Commonwealth and State Environment Plans

	Commonwealth EP	State EP
Summary	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Four subsea wells and pipeline located in Commonwealth waters (with potential for fifth) • Two non-producing wells in Commonwealth waters <p>Non-routine and unplanned activities and incidents associated with the above.</p> <p>Production from, IMMR activities for and routine and unplanned activities associated with a potential additional (new) production well are included in the scope of the Commonwealth EP revision.</p>	<p>Routine production</p> <p>Routine inspection, monitoring, maintenance and repair (IMMR) activities of the:</p> <ul style="list-style-type: none"> • Wet Gas Pipeline located in State waters and onshore • Dry Sales Gas Pipeline located onshore <p>Rehabilitation and remediation activities for the onshore Wet Gas and Dry Sales Gas Pipelines.</p> <p>Non-routine and unplanned activities and incidents associated with the above.</p>

	Export of gas to other fields is included within the scope of the Commonwealth EP revision.	
Production Licences	WA-42-L	None
Pipeline Licences	WA-23-PL	TPL/23 PL 88 PL 87
Location	<i>Commonwealth wells:</i> ~40 km north of Exmouth and 100 km west of Onslow	<i>Macedon Gas Plant:</i> ~ 17 km south-west of Onslow
Approx. Water Depth (m)	Wells: ~160 to 180 m Pipeline: State/Commonwealth waters boundary ~ 60 m	State waters pipeline: Mean Low Water Mark (MLWM) at the shore crossing to ~ 60 m at the State waters boundary
Schedule	Ongoing routine operations	
Approx. Estimated Duration	Next five years of operations.	
Exclusionary/ Cautionary Zone	Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field.	None
Infrastructure	Four subsea production wells, with potential fifth well Production manifold, flowlines and umbilicals and supporting subsea infrastructure Two non-production wells with wellheads	Pipeline in State waters and onshore Umbilical in State waters and onshore

	Section of pipeline in Commonwealth waters	
Vessels/ Vehicles	Subsea support vessels	Subsea support vessels (State waters) Operational vehicles (onshore)

Feedback:

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at: Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Your feedback and our response will be included in our Environment Plans which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and to the Department of Mines, Industry Regulation and Safety (DMIRS) for acceptance in accordance with the *Petroleum (Submerged Lands) (Environment) Regulations 2012* (WA) and the *Petroleum Pipelines (Environment) Regulations 2012* (WA).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA and DMIRS upon submission of the Environment Plans in order for this information to remain confidential to NOPSEMA and DMIRS.

2. Additional Consultation

2.1 Email sent to Australian Border Force (ABF), Department of Industry, Science and Resources (DISR), Department of Transport (DoT), Australian Energy Producers (AEP – formerly APPEA), Department of Biodiversity, Conservation and Attractions (DBCA), Department of Mines, Industry Regulation and Safety (DMIRS), Protect Ningaloo (12 July 2023)

Dear Stakeholder

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

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The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

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An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#). The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.2 Email sent to Western Gas, Exxon Mobil Australia Resources Company, Shell Australia, Eni Australia, KUFPEC, Santos WA Northwest / Santos Offshore / Santos WA Southwest / Santos (BOL) / Santos WA PVG, OMV Australia, KATO Energy / KATO Corowa, INPEX Alpha, Energy Resources, Carnarvon Energy, Buru Energy, AGI Tubridgi, Allasso Energy (12 July 2023)

Dear Titleholder

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

2.3 Email sent to Australian Maritime Safety Authority (AMSA) – Marine Safety (12 July 2023)

Dear AMSA

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). **A shipping lane map is also attached.** You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled

[environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.4 Email sent to Australian Maritime Safety Authority (AMSA) – Marine Pollution (12 July 2023)

Dear [REDACTED]

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#). The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.5 Email sent to Australian Fisheries Management Authority (AFMA) (12 July 2023)

Dear AFMA

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.6 Email sent to Exmouth Gulf Prawn, Pilbara Trap Fishery and Pilbara Line Fishery (12 July 2023)

Dear Fishery Stakeholder

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

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The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

Exclusionary / Cautionary Zones

In Commonwealth waters, a Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field. This is an exclusion zone which vessels are prohibited from entering or being present in, without Woodside permission.

A temporary 500m exclusion zone may be enacted around a vessel if it is planned to be in the field for an extended period, and is outside the Petroleum Safety Zone.

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We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.7 Email sent to Western Australian Fishing Industry Council (WAFIC) (12 July 2023)

Dear [REDACTED]

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Woodside acknowledges WAFIC's [consultation guidance](#) and has applied this by consulting fisheries that are assessed as having a potential for interaction in the Operational Area directly and consulting fisheries assessed as having a potential for interaction in the EMBA via WAFIC.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.8 Letter sent to Marine Aquarium Managed Fishery, Mackerel Managed Fishery (Area 2), Onslow Prawn Managed Fishery, Western Australian Sea Cucumber Managed Fishery, Specimen Shell Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery (12 July 2023)

Dear Stakeholder

MACEDON OPERATIONS COMMONWEALTH AND STATE ENVIRONMENT PLAN

Woodside previously consulted you (correspondence dated 27 June 2023) regarding its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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Woodside is writing to you to follow up on feedback with respect to the proposed activities. You were previously sent a Consultation Information Sheet (also available on our website woodside.com), which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 July 2023**.

Your feedback and our response will be included in our Environment Plan which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the Environment Plan in order for this information to remain confidential to NOPSEMA.

Regards,

Woodside Feedback

2.9 Letter sent to Gascoyne Recreational Marine Users (12 July 2023)

Dear Stakeholder

MACEDON OPERATIONS COMMONWEALTH AND STATE ENVIRONMENT PLAN

Woodside previously consulted you (correspondence dated 27 June 2023) regarding its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and

- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

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Woodside is writing to you to follow up on feedback with respect to the proposed activities. You were previously sent a Consultation Information Sheet (also available on our website woodside.com), which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures.

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If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 July 2023**.

Your feedback and our response will be included in our Environment Plan which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the Environment Plan in order for this information to remain confidential to NOPSEMA.

Regards,
Woodside Feedback

SAMPLE LETTER

Please direct all responses/queries to:
Woodside Feedback
T: 1800 442 977
E: Feedback@woodside.com.au

11 July 2023

1

Dear Stakeholder

ANGEL FACILITY OPERATIONS ENVIRONMENT PLAN

Woodside previously consulted you (correspondence dated 22 June 2023) regarding its plans to submit a revision of the Angel Facility Operations Environment Plan (EP) in Production Licence WA-3-L, Pipeline Licence WA-14-PL and Permit Area WA-16-L, approximately 126 km north-west of Dampier, Western Australia. The EP currently covers operations of a fixed platform (Angel) and subsea infrastructure connected to the Angel and Lambert Deep reservoirs.

The EP is being revised and resubmitted to integrate drilling, subsea installation, commissioning (drilling and tie-back) and production from the Lambert West reservoir (Lambert West tie-back) into the existing Angel production systems. The Lambert Deep and Lambert West Fields are located in Commonwealth waters around 15 km north-west of the Angel Platform in Permit Area WA-16-L.

Drilling activities

- Woodside plans to drill one new well in the Lambert West field (LDA-02), install an associated wellhead and Xmas tree. LDA-02 will be connected to the existing Lambert Deep two-slot production manifold using a ~8 to 10-inch internal diameter (ID) flexible well jumper. The well will be located at approximately 130 m water depth.

Subsea installation and commissioning activities

- Woodside also plans to install a subsea distribution unit (SDU) and flying leads at ~130 m water depth to provide connections to and control of key infrastructure in the subsea system; disconnect the existing Lambert Deep (LDA-01) well flying leads from existing Lambert Deep umbilical termination assembly (UTA) and reconnect it to the subsea distribution unit. The LDA-01 well is located at approximately 130 m water depth.
- Proposed activities also include pre-commissioning and cold-commissioning activities, including leak testing of the flexibles, subsea control systems verification and function-testing of valves to verify the production system and electric and hydraulic flying leads are ready for entry into the commissioning phase.
- Well start-up and commissioning (initial start-up) of the Lambert West well (LDA-02) involving slow and gradual build up to maximum well gas production rates and then well performance testing such as Multi-Rate Testing, simulated emergency shut down (ESD) of the well followed by Pressure Build-Up Testing.

Woodside is writing to you to follow up on feedback with respect to the proposed activities. You were previously sent a Consultation Information Sheet (also available on our website woodside.com), which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures.



Woodside Energy Group Ltd

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Mia Yellagonga
11 Mount Street
Perth WA 6000
Australia

T: +61 8 9348 4000

www.woodside.com

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If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by 22 July 2023.

Your feedback and our response will be included in our Environment Plan which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the Environment Plan in order for this information to remain confidential to NOPSEMA.

Regards,

Woodside Feedback



Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f t in v

2.10 Email sent to Exmouth Recreational Marine Users, Recfishwest, Marine Tourism Association, WA Game Fishing Association (12 July 2023)

Dear Stakeholder

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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[environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

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If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.11 Email sent to Department of Agriculture Fisheries and Forestry (DAFF) – Fisheries and Biosecurity (19 July 2023)

Dear DAFF – Fisheries and Biosecurity

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

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Regards,

Woodside Feedback

2.12 Email sent to Department of Defence (DoD) (19 July 2023)

Dear Department of Defence

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

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Regards,

Woodside Feedback

2.13 Email sent to Department of Climate Change, Energy, the Environment and Water (DCCEEW) (12 July 2023)

Dear DCCEEW

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#). The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.14 Email sent to Director of National Parks (DNP) (12 July 2023)

Dear Director of National Parks

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
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- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

Australian Marine Parks (AMPs)

We note Australian Government Guidance on consultation activities and confirm that:

- The proposed activities are outside the boundaries of a proclaimed Australian Marine Parks, with the:
 - Macedon wells and pipeline in Commonwealth waters located approximately 2.8 km north-east of the Muiron Islands Marine Management Area (State Marine Park) (measured from the closest point of the Operational Area) and ~10 km north-east from the Ningaloo World Heritage (Recreational Use Zone) (measured from the closest point of the Commonwealth Operational Area).
 - The Macedon pipeline in State waters located approximately 33km east of the Ningaloo Marine Park; approximately 8km east of the Muiron Islands Marine Management Area; and approximately 1.5 km from Round Island and Locker Island Nature Reserves (measured from the closest point of the State Operational Area).

- We have assessed potential impacts and risks to Australian Marine Parks (AMPs) in the development of the proposed Environment Plans and believe that there are no planned impacts as part of planned activities that have potential to impact the values of the Marine Parks.
- The worst-case credible risk being assessed in these EPs is the remote likelihood of a vessel collision event resulting in a spill of marine diesel to the marine environment. Through review of hydrocarbon spill modelling of this unplanned risk, and with consideration of a 50-ppb dissolved and 100 ppb entrained hydrocarbon thresholds, the following AMPs may be contacted in the event of a spill:
 - Gascoyne Marine Park
 - Montebello Marine Park
 - Ningaloo Marine Park
- For the Commonwealth EP, a Commonwealth Government-approved oil spill response plan will be in place for the duration of the activities. For the State EP, a State Government-approved oil spill response plan will be in place for the duration of the activities. For both, these will include notifications to relevant agencies and organisations as to the nature and scale of the event, as soon as practicable following an occurrence. The Director of National Parks will be advised if an environmental incident occurs that may impact on the values of the Marine Park.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.15 Email sent to Department of Planning, Lands and Heritage (DPLH) (12 July 2023)

Dear DPLH

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
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Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.16 Email sent to Western Australian Museum (12 July 2023)

Dear Western Australian Museum

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). **Also attached is a list of shipwrecks in State waters within the EMBA.** You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.17 Email sent to Shire of Ashburton (12 July 2023)

Dear [REDACTED]

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

2.18 Email sent to Onslow Chamber of Commerce and Industry (12 July 2023)

Dear [REDACTED]

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

2.19 Email sent to Australian Conservation Foundation (ACF), Australian Marine Conservation Society (AMCS), Conservation Council of Western Australia

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Woodside ID: 1401760303

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Uncontrolled when printed. Refer to electronic version for most up to date information.

(CCWA), Greenpeace Australia Pacific (GAP) and 350 Australia (350A) (12 July 2023)

Dear Stakeholder

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.20 Email sent to Cape Conservation Group (CCG) (12 July 2023)

Dear [REDACTED]

Woodside previously consulted you (email below) on its plans planning to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.21 Email sent to University of Western Australia (UWA) (12 July 2023)

Dear [REDACTED]

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

Woodside is seeking your advice regarding any research activities that UWA may be undertaking that may overlap with our proposed activities.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,
Woodside Feedback

2.22 Email sent to Western Australian Marine Science Institution (WAMSI) (12 July 2023)

Dear [REDACTED]

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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Woodside is seeking your advice regarding any research activities that WAMSI may be undertaking that may overlap with our proposed activities.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,
Woodside Feedback

2.23 Email sent to Commonwealth Scientific and Industrial Research Organisation (CSIRO) (12 July 2023)

Dear [REDACTED]

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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Woodside is seeking your advice regarding any research activities that CSIRO may be undertaking that may overlap with our proposed activities.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,
Woodside Feedback

2.24 Email sent to Australian Institute of Marine Science (AIMS) (12 July 2023)

Dear [REDACTED]

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,
Woodside Feedback

2.25 Email sent to Australian Hydrographic Office (AHO) (19 July 2023)

Dear AHO

Woodside previously consulted you (email below) on its plans submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon

Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). **A shipping lane map is also attached.** You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,
Woodside Feedback

2.26 Email sent to North West Slope and Trawl Fishery, Western Deepwater Trawl Fishery, Commonwealth Fisheries Association (CFA), Australian Southern Bluefin Tuna Industry Association (ASBTIA), Tuna Australia (12 July 2023)

Dear Fishery Stakeholder

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and

- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

Exclusionary / Cautionary Zones

In Commonwealth waters, a Petroleum Safety Zone extends a distance of 500m, measured from each point of the outer edge of the each of the wells and subsea equipment in the field. This is an exclusion zone which vessels are prohibited from entering or being present in, without Woodside permission.

A temporary 500m exclusion zone may be enacted around a vessel if it is planned to be in the field for an extended period, and is outside the Petroleum Safety Zone.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

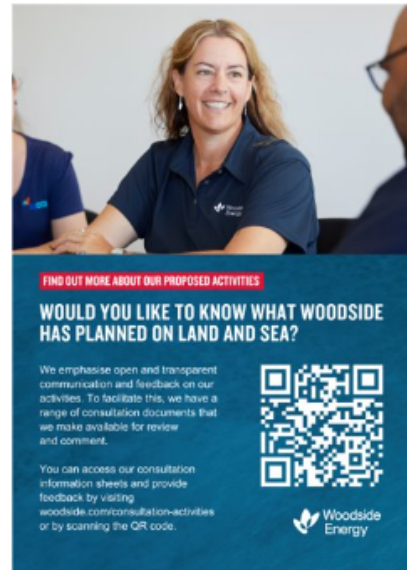
If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,
Woodside Feedback

2.27 Presentation to Karratha Community Liaison Group (29 June 2023)

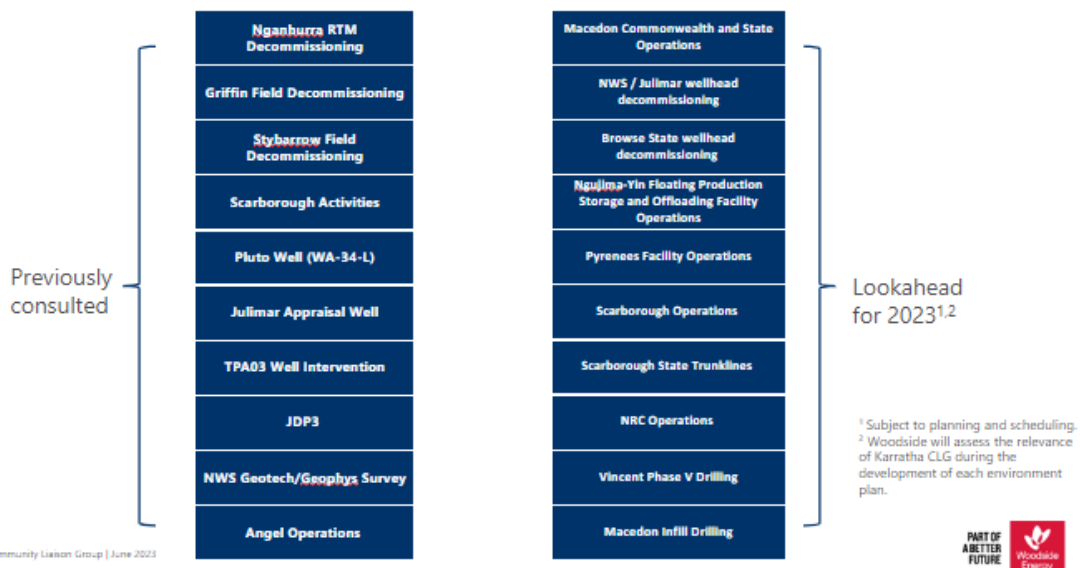
ENVIRONMENT PLAN CONSULTATION

- Changes to Commonwealth Environment Plan (EP) consultation requirements.
- Woodside is now consulting based on the **environment that may be affected (EMBA)** by a proposed petroleum activity rather than within the Operational Area.
- The EMBA is the largest spatial extent where unplanned events, no matter how unlikely, could potentially have an environmental consequence.
- Any person or organisation who does not wish to continue to receive EP consultation materials where they have only been assessed as 'relevant' for unplanned events in the EMBA, under the EP consultation requirements, please advise us in writing and we will not send further information.
- However, you should be aware that this request will need to be recorded in our EP documents and will be publicly available.
- We will be holding a drop-in session after this meeting for anyone in community who would like to know more about any of our EPs.



29 | Karratha Community Liaison Group | June 2023

ENVIRONMENT PLAN CONSULTATION Consultation with Karratha CLG



30 | Karratha Community Liaison Group | June 2023

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2.28 Geotargeted social media campaigns

Facebook Campaign - May – November 2023

A Facebook information campaign was targeted along the coastline from Geraldton to Derby to ensure it reached all communities adjacent to the EMBA. Geotargeting locations are distributed along the coast, with 80 km radiuses around towns, cities and shires. Geotargeting points were also included for spaces between towns, cities and shires to ensure no areas were missed – you'll see below there are latitude and longitude references for those locations.

As at Wednesday 1 November 2023

Ad reach: 106,480 users

Impressions: 972,443 views

Clicks through to *Consultation Information* page: 4,218 link clicks

Geotargeting locations:

- Broome (+80 km)
- Carnarvon (+80 km)
- Denham (+80 km)
- Exmouth (+80 km)
- Geraldton (+80 km)
- Onslow (+80 km)
- Port Hedland (+80 km)
- Karratha (+80 km)
- Latitude -17 Longitude 122.65 Dampier Peninsula (+80 km)
- Latitude -22.75 Longitude 114.10 Exmouth Gulf (+80 km)
- Latitude -18.96 Longitude 121.94 Gingerah (+80 km)
- Latitude -27.85 Longitude 114.25 Kalbarri National Park (+80 km)
- Latitude -21.32 Longitude 116.03 Mardie (+80 km)
- Pardoo (+80 km)
- Latitude -20.94 Longitude 117.83 Sherlock (+80 km)
- Latitude -26.96 Longitude 113.95 Tamala (+80 km)
- Latitude -19.88 Longitude 121.15 Telfer (+80 km)
- Latitude -17.52 Longitude 123.56 Willare (+80 km)

- Latitude -22.43 Longitude 114.93 Yannarie (+80 km)

Woodside Energy
Sponsored · 🌐

Would you like to know what Woodside has planned on land and sea?

We'd like to talk with you.

To find out about our current and proposed work and to share your views with Woodside on your relevant location, activities or interests visit: woodside.com/consultation-activities.

Alternatively, you can contact us at Feedback@woodside.com.au or on 1800 442 977.

 Woodside Energy

woodside.com
Woodside's consultation activities [Learn more](#)

Woodside Energy
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Would you like to know what Woodside has planned on land and sea?

We'd like to talk with you.

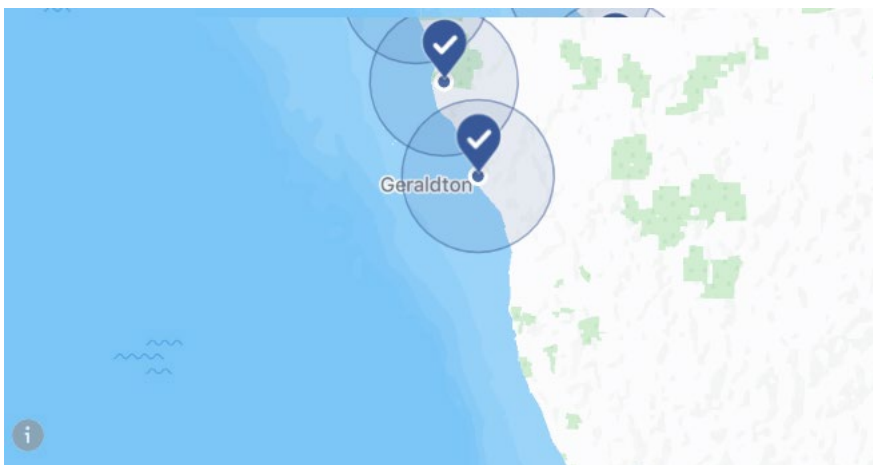
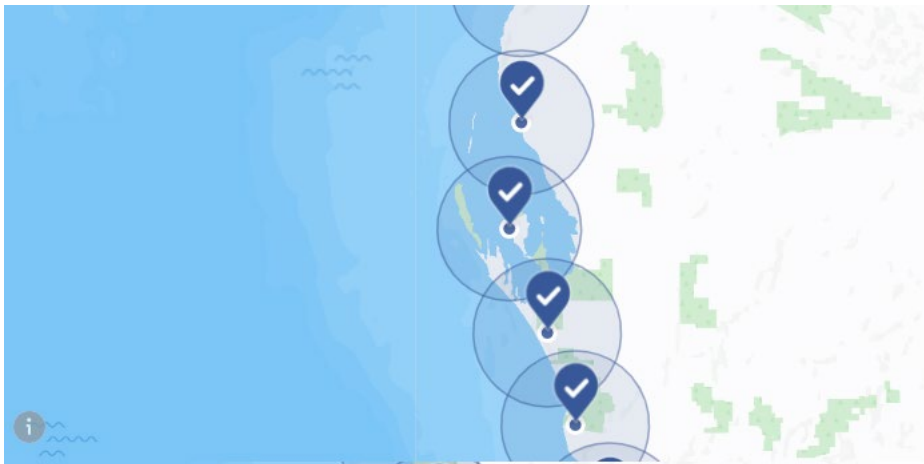
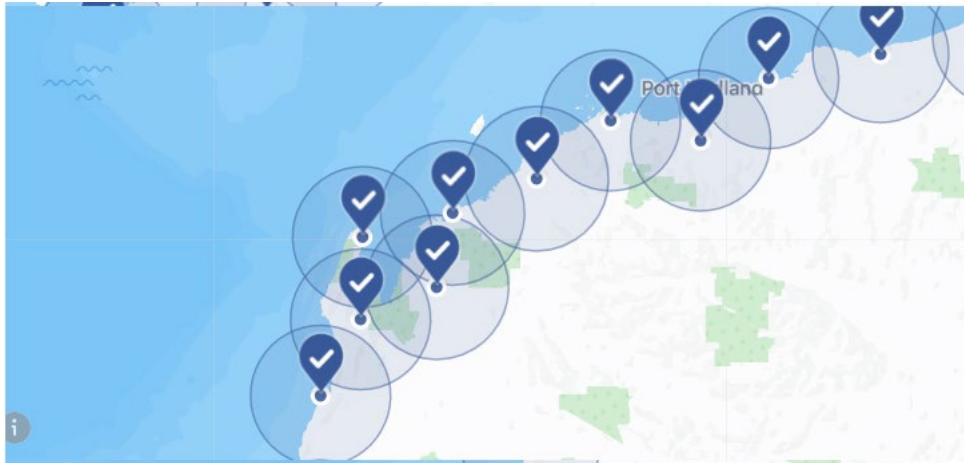
To find out about our current and proposed work and to share your views with Woodside on your relevant location, activities or interests visit: woodside.com/consultation-activities.

Alternatively, you can contact us at Feedback@woodside.com.au or on 1800 442 977.

 Woodside Energy

[Learn more](#)



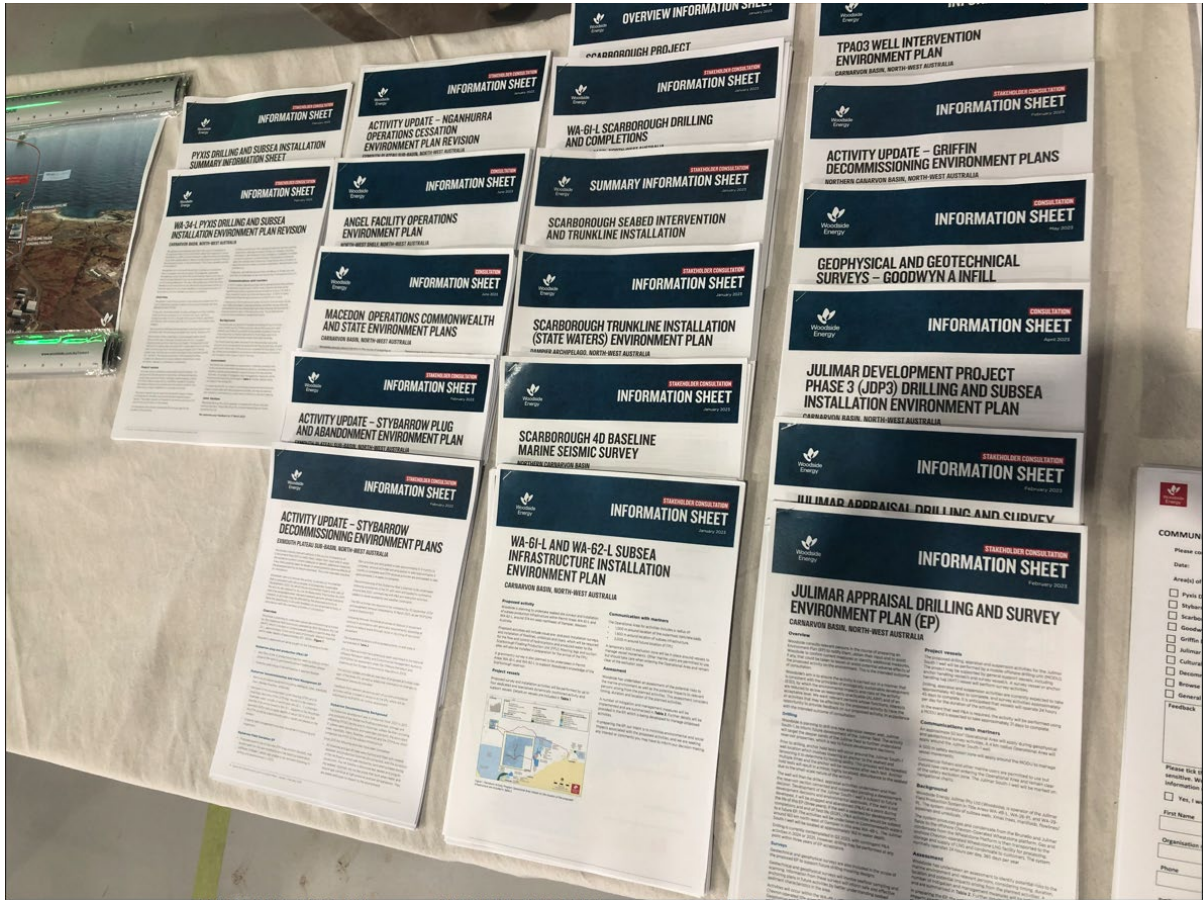


2.29 Community Information Sessions (June 2023)

2.29.1 Exmouth Community Information Session (17 June 2023)

Location	Exmouth
Date	17 June 2023
Description of the consultation	<p>Woodside supported the PHI Helicopters Community Open Day at the Exmouth Aerodrome. Representatives from Woodside, including project and environment personnel equipped to answer technical questions, attended the event. Copies of the Consultation Information Sheets and Summary Consultation Information Sheets were available to attendees. Community members were able to engage with Woodside representatives to understand the proposed activity and how it may affect them, ask questions and provide feedback. A number of Environment Plan Consultation Information Sheets were available to attendees including the Macedon Operations Commonwealth EP Consultation Information Sheet.</p>
Advertising and invitations	<p>Ahead of the event, Woodside advertised the session via the means below to assist individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following:</p> <ul style="list-style-type: none"> From 15–17 June 2023, Woodside commenced a geotargeted social media campaign in Exmouth and surrounding areas advertising the Community Information Session.
Estimated number of individuals consulted	<ul style="list-style-type: none"> An estimated 300 community people attended the event (adults and children).
Summary of Feedback, Objection or Claim	
<p>Issues discussed from around 5 community members included:</p> <ul style="list-style-type: none"> Whales - what Woodside is doing to protect whales, what the impact to whales might be The Scarborough FPU and nature of this i.e. is it DP or moored to the seabed, was it like an FPSO General interest questions on Scarborough project – location, activities (i.e. trunkline installation, construction work at Pluto gas plant (within existing footprint)), trunkline size and routing – and why the location was chosen, field life and start up timing Turtle nesting and lighting controls Funding for whale shark research <p>Other EP consultation information sheets were available and taken by attendees. Two attendees said they were taking the information sheets so they could see pipeline routes (for fishing opportunities), specifically mentioning permit numbers they were after.</p>	
Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	
<p>Whilst feedback was received, there were no objections or claims.</p> <p>The community information sessions were part of Woodside’s broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).</p>	

2.29.1.1 Banners and consultation sheets



2.29.1.2 Woodside stand

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2.29.2 Roebourne Community Information Session (22 June 2023)

Location	Roebourne
Date	22 June 2023
Description of the consultation	<p>A Community Information Session was held in Roebourne.</p> <p>The consultation information session was hosted by members from Woodside's Corporate Affairs and Environment teams and was open for all community members to receive information regarding Woodside's Environment Plans and proposed and planned activities.</p> <p>A number of EP Consultation Information Sheets were available to attendees including the Macedon Operations Commonwealth EP Consultation Information Sheet.</p>
Advertising and invitations	<p>Ahead of the event, Woodside advertised the session via the means below to assist individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following:</p> <ul style="list-style-type: none"> • Woodside advertised the session by distributing posters advising of the event details in the local community and visiting offices to raise awareness, including the offices of local Traditional Custodian groups. • From 15–17 June 2023, Woodside commenced a geotargeted social media campaign in Roebourne and surrounding areas (Record of Consultation, reference 2.29.2.1) advertising the Community Information Session.

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	<ul style="list-style-type: none"> • Woodside distributed posters advertising the community information session locally, including: <ul style="list-style-type: none"> ○ Front door and front window of Woodside Roebourne office ○ Online distribution via the Roebourne Community Calendar ○ Roebourne Police Station provided with printed copy • Woodside staff also visited the following offices to advise of the community information session: <ul style="list-style-type: none"> ○ Ngarluma and Yindjibarndi Foundation Ltd (NYFL) ○ Ngarliyarndu Bindirri Aboriginal Corporation ○ Yinjaai-Barni Art ○ Foundation Foods
<p>Estimated number of individuals consulted</p>	<ul style="list-style-type: none"> • N/A
<p>Summary of Feedback, Objection or Claim</p>	
<p>Community members were able to engage with Woodside representatives to understand the proposed activity and how it may affect them, ask questions and provide their feedback.</p>	
<p>Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response</p>	
<p>There were no feedback, objections or claims.</p> <p>The community information sessions were part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).</p>	

2.29.2.1 Social Media



COMMUNITY CONSULTATION


COMMUNITY INFORMATION SESSIONS IN IERAMUGADU

You're invited to meet, greet and eat with our friendly team in Ieramugadu. We'd like to talk about our Environment Plans with relevant persons whose functions, activities or interests may be affected by our proposed projects.

Stop by to find out more and share your feedback about Woodside's work in the North West, our Environment Plans and our current and proposed projects, including Scarborough and Browse.

Visit 39 Roe Street, Roebourne, between **12pm** and **3.30pm**, on:

Thursday 22 June 2023	Wednesday 19 July 2023
---------------------------------	----------------------------------



2.29.3 Karratha Community Information Sessions (28 and 29 June 2023)

Location	Karratha – Shopping Centre, Woodside office
Date	28, 29 June 2023
Description of the consultation	<p>Community Information Sessions were held in Karratha. Representatives from Woodside, including project and environment personnel equipped to answer technical questions, attended the event.</p> <p>A number of Environment Plan Consultation Information Sheets and targeted Consultation Summary Information Sheets were available to attendees including the Macedon Operations Commonwealth EP Consultation Information Sheet.</p>
Advertising and invitations	<p>Ahead of the event, Woodside advertised the sessions via the means below to assist individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following:</p> <ul style="list-style-type: none"> Ahead of the 28 June 2023 event, a story was posted on Woodside's Facebook page (Record of Consultation, reference 2.29.3.2), sharing details of its shopping centre stand where Consultation Information Sheets regarding planned and proposed activities were available, including the activities proposed under this EP.

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	<ul style="list-style-type: none"> Ahead of the 29 June 2023 event, the Community Information Session was advertised in the Pilbara News (Record of Consultation, reference 2.29.3.1), geotargeting a social media campaign in Karratha and surrounding areas and posting the event details on Woodside’s Facebook page (Record of Consultation, reference 2.29.3.3). Woodside advertised the session by distributing posters advising of the event details in the local community and visiting offices to raise awareness, including the offices of local Traditional Custodian groups.
Estimated number of individuals consulted	<ul style="list-style-type: none"> Estimated number of people consulted: 10-20
Summary of Feedback, Objection or Claim	
<p>Community members were able to engage with Woodside representatives to understand the proposed activity and how it may affect them, ask questions and provide their feedback.</p> <ul style="list-style-type: none"> Employment opportunities provided by the resources sector General interest in Woodside EPs 	
Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	
<p>Whilst feedback was received, there were no objections or claims.</p> <p>The community information sessions were part of Woodside’s broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).</p>	

2.29.3.1 Newspaper advertisement – Pilbara News (28 June 2023)



Rio reaches \$1b Range milestone

CHEYANNE ENCISO

Rio Tinto has spent \$1 billion with WA businesses as it progresses the development of its Western Range joint venture with China Baowu Steel Group.

Simon Trott, iron ore chief executive of Rio Tinto, said the \$1b spend marked a considerable milestone.

"Rio Tinto spends billions of dollars with local suppliers across Western Australia and the Pilbara every year, helping support thriving communities across the State by providing local jobs for local people," he said.

The 25 million tonnes-a-year Western Range project will help sustain production of Rio's flagship Pilbara blend product from its existing Paraburdoo mining hub as the Eastern Range project depletes. China Baowu said it was pleased to see the Western Range project progressing smoothly.

Premier Roger Cook said significant projects such as the Western Range reinforced WA as an attractive and secure destination for business and investment.

"I want to commend Rio Tinto and Baowu on this latest project milestone and acknowledge their efforts in investing in WA to ensure WA businesses and workers benefit most," he said.

Rio in March reported it had spent \$8.6b with more than 2400 WA and Indigenous businesses in 2022 as part of its local buying program.

The figure included \$618m with Pilbara-based businesses, \$594m with Indigenous companies across WA, and \$430m with businesses run by traditional owners.

Rio Tinto iron ore chief executive Simon Trott and China Baowu vice-president Hou Angui.



We are hiring

JOIN THE TEAM!

Here at Pilbara Ports Authority, we are committed to advancing an inclusive and productive workplace where people are valued and respected.

We are proud of the talent and diversity of our workforce. Our people are key to our current and future success. We are seeking individuals, who strive for excellence in all they do and seek out opportunities for growth. In return, we provide generous support for training and professional development.

If this sounds like a workplace you would thrive in, take a look at our current vacancies.

- **Administration Officer - Maintenance - Port Hedland**

Find out more about PPA careers and youth training online via careers.pilbaraports.com.au




FIND OUT MORE ABOUT OUR PROPOSED ACTIVITIES

WOULD YOU LIKE TO KNOW WHAT WOODSIDE HAS PLANNED ON LAND AND SEA?

We'd like to talk about our Environment Plans with relevant persons whose functions, activities or interests may be affected by our proposed projects.

Drop in to our office to find out more and share your feedback about Woodside's work in the North West, our Environment Plans and our current and proposed activities, including Scarborough.

Thursday, 29 June 2023
Between 9.00am - 2.00pm
The Quarter HQ Level 3
24 Sharpe Avenue
Karratha WA 6714

You can also access our consultation information and provide feedback by scanning the QR code.




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2.29.3.2 Facebook post (28 June 2023)

On 28 June 2023, Woodside posted a story on its Woodside North West Facebook account, sharing details of its shopping centre stand where Consultation Information Sheets regarding is planned and proposed activities were available, including the activities proposed under this EP.

Platform/channel: Woodside North West (Facebook)

Date: 28 June 2023

Reach: 1,464 viewers

Impressions: 1,464 views

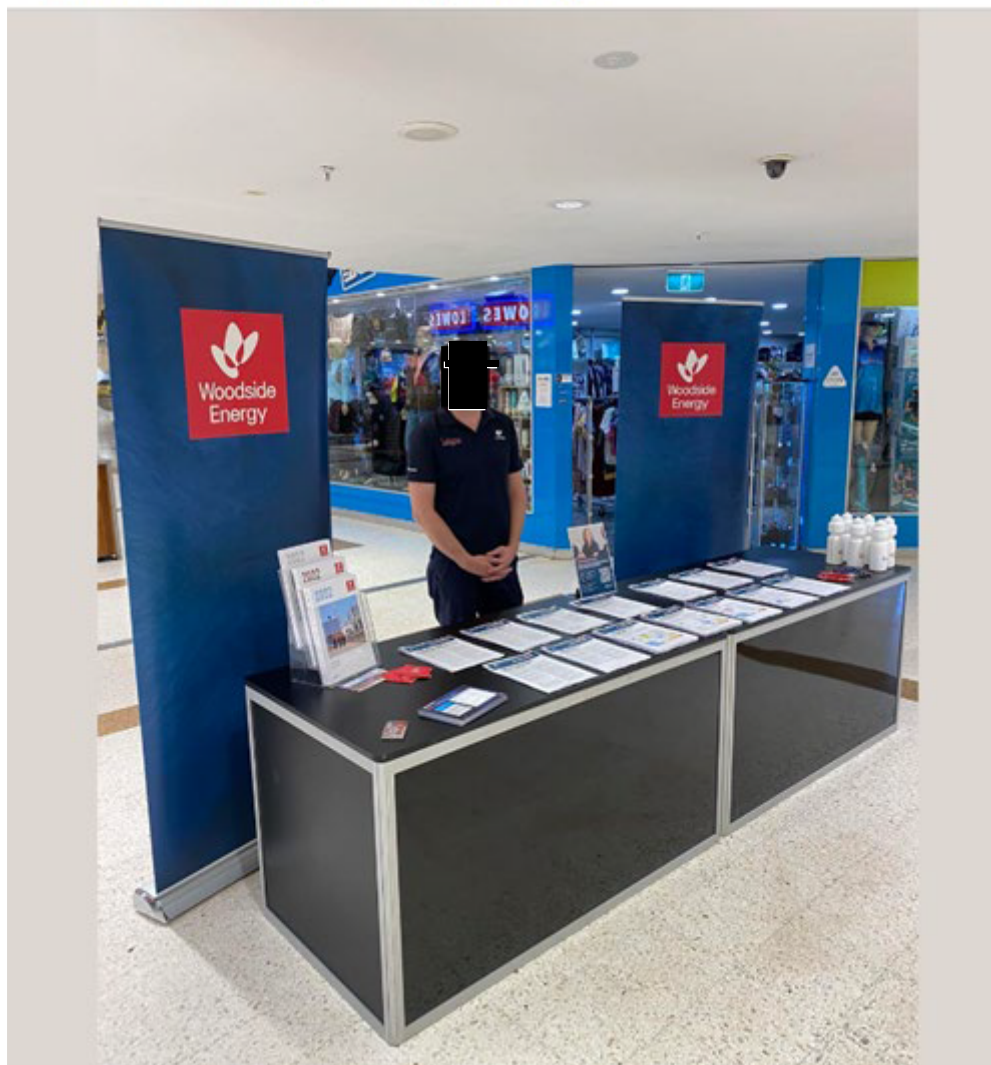


Woodside North West

Published by Woodside Comms · 28 June at 10:07 · 🌐

Stop by [Karratha City Shopping Centre](#) today and say our hello to our friendly team 🙌

We'll be here until 12pm to share information about our planned and proposed activities, our contribution in the community and employment pathways.



2.29.3.3 Geotargeted Social Media Campaign (29 June 2023)

On 29 June 2023, Woodside held a drop-in session at its Karratha town office. The drop-in session was hosted by one of Woodside's Senior Environmental Advisers and was open for all community members to receive information regarding Woodside's Environment Plans and proposed and planned activities.

Dates: 26 June 2023 – 29 June 2023

Geotargeting: 40km radius around Karratha

Reach: 19,240 viewers

Impressions: 22,931 views

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Macedon Operations Commonwealth Environment Plan

Campaign name	Ad set name	Delivery	Reach	Impressions	Frequency	Attribution setting	Results
EP Drop in session - KTA	All	Recently completed Campaign	19,240	22,931	1.19	7-day click or 1-day view	19,240 Reach

Facebook Feeds

Facebook Stories

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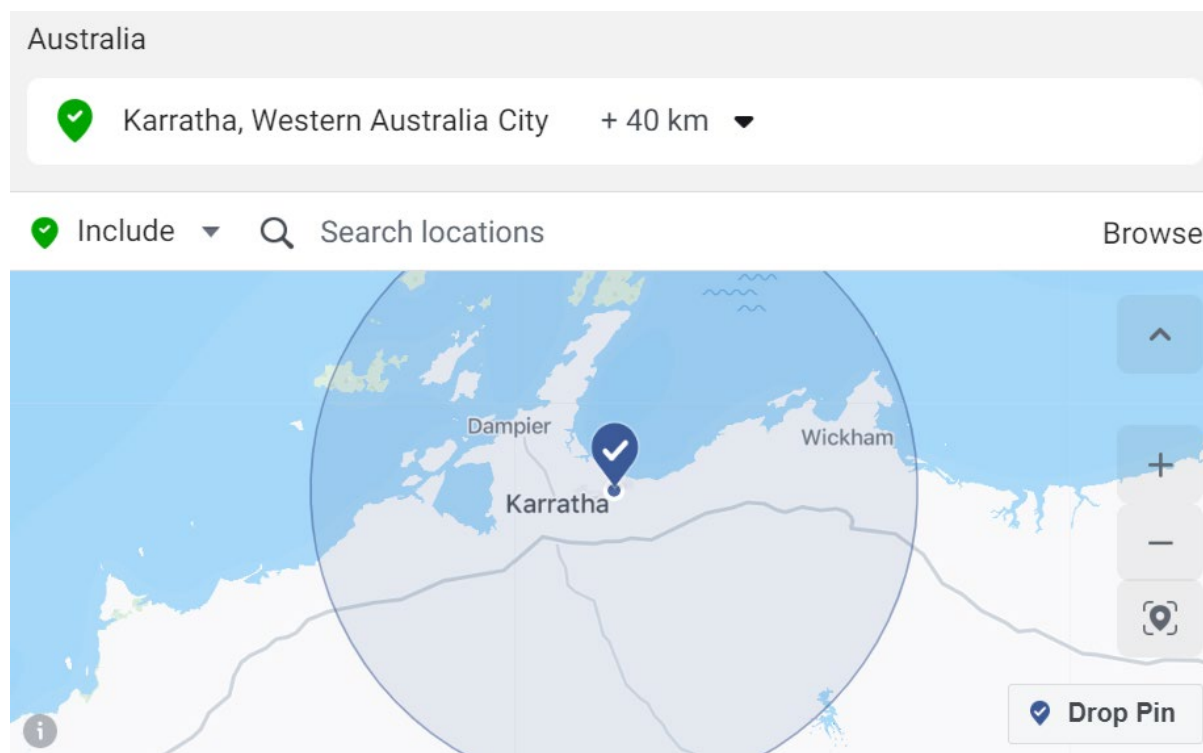
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On 28 June 2023, Woodside posted a story on its Woodside North West Facebook account, sharing details of its drop-in session.

Reach: 1,366 viewers

Impressions: 22,931 views

Geotargeting: 40 km radius around Karratha



Woodside North West 16 h

Did you miss us today at the Karratha City Shopping Centre?

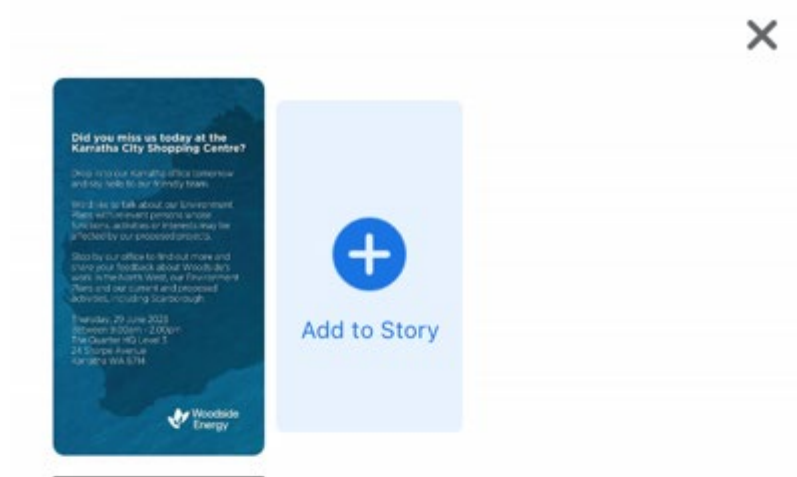
Drop in to our Karratha office tomorrow and say hello to our friendly team.

We'd like to talk about our Environment Plans with relevant persons whose functions, activities or interests may be affected by our proposed projects.

Stop by our office to find out more and share your feedback about Woodside's work in the North West, our Environment Plans and our current and proposed activities, including Scarborough.

Thursday, 29 June 2023
Between 9.00am - 2.00pm
The Quarter HQ Level 3
24 Sharpe Avenue
Karratha WA 6714





Insights Viewers

Seen by

1.3K

Unique accounts

Engagement

5

Actions taken from this story

Reactions >

5

Navigation

Forward taps	450
Backward taps	19
Forward swipes	309
Exits	458

2.30 Community Information Sessions (July - August 2023)

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2.30.1 Roebourne Community Information Session (19 July 2023)

Location	Roebourne
Date	19 July 2023
Description of the consultation	<p>A Community Information Session was held in Roebourne.</p> <p>The consultation information session was hosted by members from Woodside's Corporate Affairs and Environment teams and was open for all community members to receive information regarding Woodside's Environment Plans and proposed and planned activities.</p> <p>A number of Environment Plan Consultation Information Sheets were available to attendees including the Macedon Operations Commonwealth EP Consultation Information Sheet.</p>
Advertising and invitations	<p>Ahead of the event, Woodside advertised the session via the means below to assist individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following:</p> <ul style="list-style-type: none"> • Woodside advertised the session by distributing posters advising of the event details in the local community and visiting offices to raise awareness, including the offices of local Traditional Custodian groups (Record of Consultation, reference 2.30.1.1). • Woodside distributed posters advertising the community information session locally, including: <ul style="list-style-type: none"> ○ Front door and front window of Woodside Roebourne office, with the open sign and fact sheets on display inside ○ On the noticeboard at Roebourne Community Resource Centre (inside the Ieramugadu Store (NYFL's Foundation Foods)). ○ Roebourne CRC ○ Pilbara Community Legal Service ○ NBAC ○ WAPOL ○ BP • Woodside staff also visited the following offices to advise of the community information session and provide posters: <ul style="list-style-type: none"> ○ Ngarluma and Yindjibarndi Foundation Ltd (NYFL) ○ Yinjaai-Barni Art Group ○ Yandi for Change ○ NYFL ○ WY Program ○ Roebourne Library ○ Yindjibarndi Ranger office ○ Ashburton Aboriginal Corporation ○ A poster was also put up at Cossack.
Estimated number of individuals consulted	<ul style="list-style-type: none"> • N/A
Summary of Feedback, Objection or Claim	
Community members were able to engage with Woodside representatives to understand the proposed activity and how it may affect them, ask questions and provide their feedback.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
<p>There were no feedback, objections or claims.</p> <p>The community information sessions were part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests</p>	
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or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see **Section 5.2**).

2.30.1.1 Posters at Woodside's Roebourne Office



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2.30.2 Karratha FeNaCING Festival (5 and 6 August 2023)

Location	Karratha – FeNaCING Festival
Date	5, 6 August 2023
Description of the consultation	<p>Woodside had a stand at the annual FeNaCING Festival held in Karratha. Members of Woodside’s Corporate Affairs and Operations teams actively engaged with the community to discuss proposed Environment Plan activities.</p> <p>The stand included Consultation Information Sheets for a number of Environment Plans including Macedon Operations Commonwealth EP.</p>
Advertising and invitations	<p>Ahead of the event, Woodside advertised the session via the means below to assist individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following:</p> <ul style="list-style-type: none"> • Advertisement in the Pilbara News on 2 August 2023 (Record of Consultation, reference 2.30.2.1). • A social media story appeared on the Woodside Nort West Facebook page on 2 August 2023 (Record of Consultation, reference 2.30.2.1). • Directly inviting local Traditional Custodian groups.
Estimated number of individuals consulted	Woodside estimates that over 2,000 people visited the Woodside stand based on the number of completed consultation forms and questionnaires.
Summary of Feedback, Objection or Claim	
<p>Community discussions centred on:</p> <ul style="list-style-type: none"> • Update of Woodside activities and employment and contracting opportunities • All community members were encouraged to provide their views on Woodside’s activities through the Woodside feedback form on the Woodside website, or to subscribe to Woodside updates. An iPad was available for stakeholders to do this on the spot. 	
Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	
<p>Whilst feedback was received, there were no objections or claims.</p> <p>The community information sessions were part of Woodside’s broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).</p>	

2.30.2.1 Pilbara News Advertisement (2 August 2023)



PROVIDE YOUR FEEDBACK AT FeNaCING FESTIVAL

Are you interested in what Woodside has planned on land and sea?

Join our friendly team at FeNaCING Festival and find out more about our Environment Plans and projects, including Scarborough and Browse.

We look forward to sharing information about our current and proposed activities and providing the opportunity to discuss your relevant functions, activities or interests and receive your input.

Follow us @woodsidenorthwest
www.woodside.com



6 NEWS Pilbara NEWS
Wednesday, August 7, 2023

Melski's murals brought to life

DANIEL SPENCE

Tambrey Primary School has successfully brought renowned artist Mel Melski, popularly known as Melski, and her sister Tash to create three vibrant murals around the school premises.

With funding support from corporate entities like Woodside, FMC and Pilbara Real Estate, as well as community contributions from Jerome Martin, Santos, Yara and QUB Energy, the school raised more than \$20,000 to bring this art project to life.

Home to nearly 700 students, with a third of them having Indigenous backgrounds, school Deputy Principal Trest Whittbread and visual arts specialist Felicity Collins said the mission of the project was to celebrate diversity and create a sense of belonging by reflecting students' culture through artwork.

The school's mission was to celebrate diversity and create a profound sense of belonging by reflecting the students' culture through artwork.

What particularly attracted the school to Mel's artwork was its unique paint-by-numbers style, which allowed students to actively participate in the mural creation process.

Eager to engage the entire school community, the school declared a special "paint week" during which more than 400 students enthusiastically joined hands to contribute to the murals.

Throughout the week, students not only participated in the creation of the murals but also enjoyed immersive art sessions in the park, including in painting, drawing, collage, and chalk drawings – under the enchanting winter weather.

The entire experience served to nurture the students' creativity and appreciation for art, leaving a lasting impact on their artistic aspirations.

Ms Collins said she was thrilled to see the whole school coming together for a week of collaborative art.

"We were delighted to see students immersed in a week of collaborative art," she said.

"Students not only contributed to the creation of the mural but also with their involvement in the immersive art in the park session – which included painting, drawing, collage and chalk drawings – while all outside soaking up the winter weather."

The artist was brought to the school to create murals.





Beyond supplying affordable, reliable, ever-cleaner energy – we believe we have an important role to play in helping local communities build a vibrant and prosperous future.

We do this by investing in programs which contribute to areas of health and wellbeing, education, environment and building thriving communities.

We're calling for applications for the Chevron Community Spirit Fund, offering donations of up to \$15,000 to not-for-profit organisations operating in the following Northwest locations:

- Carnarvon
- Karratha
- Coral Bay
- Onslow
- Dampier
- Port Hedland
- Denham
- Roebourne
- Exmouth
- Shark Bay

Applications are open now until 13 August 2023. To apply, head to australia.chevron.com




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2.30.2.2 Woodside North West Facebook Page (2 August 2023)



PROVIDE YOUR FEEDBACK AT FeNaCING FESTIVAL

Are you interested in what Woodside has planned on land and sea?

Join our friendly team at FeNaCING Festival and find out more about our Environment Plans and projects, including Scarborough and Browse.

We look forward to sharing information about our current and proposed activities and providing the opportunity to discuss your relevant functions, activities or interests and receive your input.



2.30.2.3 Environment Plan Banner



ENGAGE WITH WOODSIDE ON OUR PLANS ON LAND AND SEA

Environment Plans
Are you an individual, organisation or community group whose functions, interests or activities, may be affected by our activities?
We would like to hear your views.

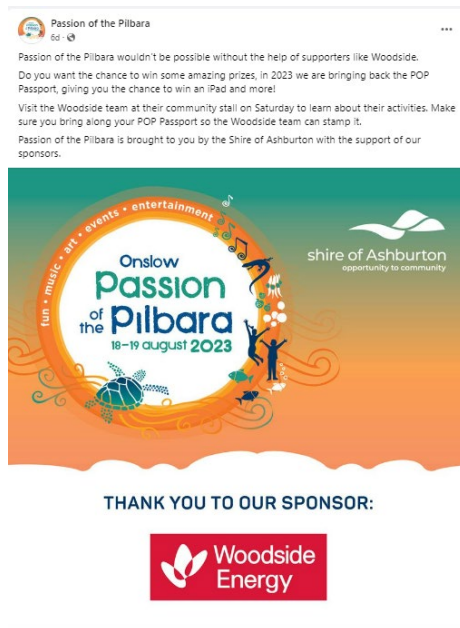
Engage with us further
To identify as a relevant person for consultation on our Environment Plans, please speak with our team or contact us at:
Feedback@woodside.com or phone 1800 442 977.

To find out more about Woodside's current and proposed work and any of our Environment Plans that may affect you, scan the QR code.

2.30.3 Passion of the Pilbara, Onslow (18 August 2023)

Location	Onslow – Passion of the Pilbara festival
Date	18 August 2023
Description of the consultation	Members of Woodside’s Corporate Affairs engaged with the community to discuss proposed Environment Plan activities. The stand included Consultation Information Sheets for a number of Environment Plans including the Macedon Operations Commonwealth EP.
Advertising and invitations	Ahead of the event, Woodside advertised the session via the means below to assist individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: <ul style="list-style-type: none"> The consultation opportunity was promoted prior to the Festival in a story on the Woodside North West Facebook page on 17 August 2023.
Estimated number of individuals consulted	<ul style="list-style-type: none"> Woodside estimates approximately 100 people visited the Woodside stand.
Summary of Feedback, Objection or Claim	
<p>Community discussions centred on:</p> <ul style="list-style-type: none"> Update of Woodside activities and employment opportunities General Scarborough project update and operations. A Scarborough operations map and Floating Production Unit images were available (see below). There was general community interest and support for the project. Discussions included: <ul style="list-style-type: none"> Support for the project and dissatisfaction about protester activity against the project Number of jobs during construction Location of activities (noting activity was not off the coast of Onslow) General interest on the Browse project included: <ul style="list-style-type: none"> Awareness that Carbon Capture Storage concept is feasible and has been included in the development concept. One individual asked in relation to the Scarborough Project what Woodside was doing in relation to the protecting environment. Community members were encouraged to provide their views on Woodside’s activities through the Woodside feedback form on the Woodside website, or to subscribe to Woodside updates. 	
Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	
<p>Whilst feedback was received, there were no objections or claims.</p> <p>The community information sessions were part of Woodside’s broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2 in the EP).</p>	

2.30.3.1 Passion of the Pilbara Facebook Post (17 August 2023)



2.30.3.2 Woodside Facebook Post and Story (17 August 2023)

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2.30.3.3 Woodside Marquee



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2.30.3.4 Woodside Information Sheets



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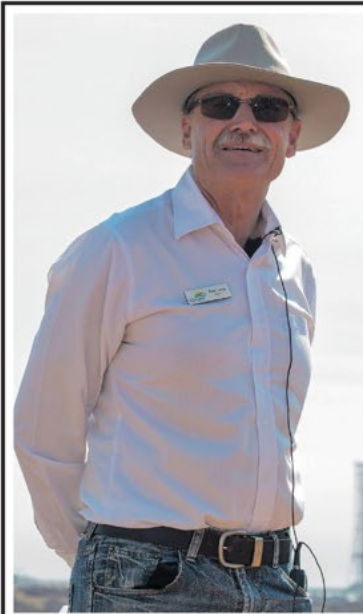
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2.31 Community Information Sessions (September - October 2023)

2.31.1 Karratha, Port Hedland, Roebourne Community Information Sessions (18 – 20 September 2023)

Location	Karratha, Port Hedland, and Roebourne
Date	18 – 20 September 2023
Description of the consultation	<p>Woodside hosted community consultation sessions in Karratha, Port Hedland and Roebourne to enable community members to understand Woodside’s proposed activities and how it may affect them, ask questions, and provide their feedback.</p> <p>Woodside Project, Corporate Affairs, First Nations and Environment representatives were available to answer questions.</p> <p>A number of Environment Plan Consultation Information Sheets were available to attendees including the Macedon Operations Commonwealth EP Consultation Information Sheet.</p>
Advertising and invitations	<p>Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following:</p> <ul style="list-style-type: none"> • Advertisement in the Pilbara News on 13 September 2023 (Record of Consultation, reference 2.31.1.1). • Geotargeted social media campaign advertising in Karratha (Reach 22,095), Port Hedland (reach 26,487), and Roebourne (reach 22,134) (+80 kms) from 6 to 16 September 2023 (Record of Consultation, reference 2.31.1.2). • An EP consultation banner with QR code (linked to the Consultation Activities page on the Woodside website), Scarborough Project banner, and Browse Project banners were displayed stand along with current EP factsheets.
Estimated number of individuals / organisations consulted	<p>18 September 2023 – Karratha. Estimated number of people consulted: 20</p> <p>19 September 2023 – Port Hedland. Estimated number of people consulted: 20</p> <p>20 September 2023 – Roebourne. Estimated number of people consulted: 0</p>
Summary of Feedback, Objection or Claim	
<p>Community discussions centred on:</p> <ul style="list-style-type: none"> • Update of Woodside activities and employment and contracting opportunities. • General Woodside activities on the North West Shelf including the location of operations. Woodside noted the need for additional gas and the role Browse could play at the Karratha Gas Plant. • Some individuals had worked on a Woodside operations / project of knew family and friends that had. • General overview of what an EMBA was. • All community members were encouraged to provide their views on Woodside’s activities through the Woodside feedback form on the Woodside website, or to subscribe to Woodside updates. An Ipad was available for stakeholders to do this on the spot. 	
Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	
<p>Whilst feedback was received, there were no objections or claims.</p> <p>The community information sessions were part of Woodside’s broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2 in the EP).</p>	

2.31.2 Pilbara News Advertisement (13 September 2023)



City of Karratha Mayor Peter Long. Picture: Tom Zaurmayr

Mayor runs again as candidates put forward pitches

DANIEL SPENCE

Nominations have closed for the 2023 Karratha mayoral and councillor elections, with the list of candidates running to be the city's next mayor being released.

Peter Long — who has been in the position since 2011 — will be running again and said, if re-elected, he would continue to provide Karratha with intelligent, safe and inclusive leadership.

"I am a full-time mayor, always able to receive you and your ideas," he said. "I love the Pilbara and our community."

Regional Development Australia Pilbara chief executive and former local government minister Tony Simpson is also running for mayor.

His vision is to join forces with State and Federal entities to progress childcare, health and housing solutions.

"I would work to draw major brand investments in retail and leisure to provide more options for residents. Identify land for a

foreshore entertainment hub and infuse Karratha with festivals and quality entertainment," he said.

Brenton Johannsen — who ran for the seat of Durack at the recent Federal election under One Nation — said he would donate the entire mayoral allowance to charity.

"I will be a committed full-time mayor, my goal is to visit all businesses and resident groups on a regular basis to touch base and discuss any new issues," he said.

Mr Johannsen said his aims would be neighbourhood safety, more opportunities for locals, ratepayer discounts for local facilities, moving airport smokers' areas, and eco-friendly weed management.

As a sitting councillor, radio announcer, parent and former local business owner mayoral candidate Pablo Miller said he had got to know the people of Karratha.

"As your mayor, I will continue to not only listen but be a strong advocate for our community," he

said. Mr Johannsen said he was interested in expanding opportunities for young people and families, growing local and cultural tourism, supporting businesses and bolstering mental health services.

The owner of the North West Brewing Co Daniel Scott has a vision as mayor to grow Karratha's economy.

His plan is to create an education and sporting precinct between the TAFE and St Luke's College, with accommodation for secondary and tertiary students.

His plans also include a new home for the Pilbara Universities Centre, and a sporting hub for rugby, soccer, hockey and gymnastics.

Those running for council include Daniel Scott, Kieran Dart, Wayne Mothershaw, Mr Johannsen, Sarah Roots, George Levisstianos, Bradley Dawey, Mr Simpson, James Corea, Joseph Almonte and Geoff Harris.

Elections will be held for the four vacancies on October 21st.

FIND OUT MORE ABOUT OUR PROPOSED ACTIVITIES

ARE YOU INTERESTED IN WHAT WOODSIDE HAS PLANNED ON LAND AND SEA?

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed projects.

Speak to our friendly team members at one of our four sessions in September.

<p>Monday, 18 September 2023 Between 8.00am - 12.00pm Karratha Shopping Centre Sharpe Avenue Karratha</p>	<p>Monday, 18 September 2023 Between 3.00pm - 6.00pm Red Earth Arts Precinct 27 Welcome Road Karratha</p>
<p>Tuesday, 19 September 2023 Between 10.00am - 5.00pm South Hedland Square 9-31 Throssell Road South Hedland</p>	<p>Wednesday, 20 September 2023 Between 10.00am - 4.00pm Woodside Office 39 Roe Street Roebourne</p>

 You can access our consultation information, provide feedback and subscribe for updates by scanning the QR code.
 

ON SLOW

Business Excellence Awards

Cocktail Celebration

Saturday 16th September, 2023
at Onslow Beach Resort

A fabulous stand up cocktail event with canapes and drinks from 5:30pm
Award presentations from 7pm

Live entertainment
post award presentations

Tickets

Purchase your tickets online:
<https://OCCIBusinessAwards2023.eventbrite.com.au>







2.31.2.1 Social Media (6 - 16 September 2023)

<p>Are you interested in what Woodside has planned on land and sea?</p> <p>Stop by and say hello to our friendly team in Karratha.</p> <p>We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed projects.</p> <p>Monday, 18 September 2023</p> <p>Between 8.00am - 12.00pm Karratha Shopping Centre Sharpe Avenue Karratha</p> <p>Between 3.00pm - 6.00pm Red Earth Arts Precinct 27 Welcome Road Karratha</p> 	<p>Are you interested in what Woodside has planned on land and sea?</p> <p>Stop by and say hello to our friendly team in Port Hedland.</p> <p>We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed projects.</p> <p>Tuesday, 19 September 2023</p> <p>Between 10.00am - 5.00pm South Hedland Square 9-31 Throssell Road South Hedland</p> 	<p>Are you interested in what Woodside has planned on land and sea?</p> <p>Stop by and say hello to our friendly team in Roebourne.</p> <p>We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed projects.</p> <p>Wednesday, 20 September 2023</p> <p>Between 10.00am - 4.00pm Woodside Office, Roebourne 39 Roe Street Roebourne</p> 
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Social media reach:

Location	Reach
Karratha	22,095
Port Hedland	26,487
Roebourne	22,134

2.31.2.2 Karratha Shopping Centre (18 September 2023)



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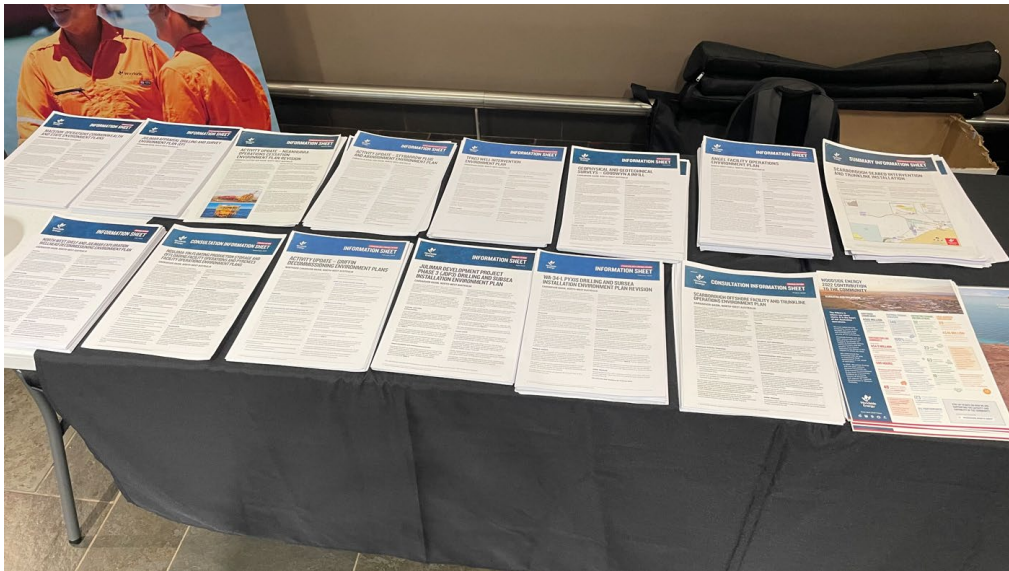
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2.31.2.3 South Hedland Square (19 September 2023)



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2.31.2.4 Roebourne – Woodside Office (20 September 2023)



2.31.3 Carnarvon and Denham Community Information Sessions (16 and 17 October 2023)

Location	Carnarvon and Denham - Community Consultation Roadshow
Date	16 and 17 October 2023

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Macedon Operations Commonwealth Environment Plan

Description of the consultation	Woodside hosted community consultation sessions in Carnarvon and Denham to enable community members to understand Woodside’s proposed activities and how it may affect them, ask questions, and provide their feedback. Woodside Project, Corporate Affairs and Environment representatives were available to answer questions. A number of Environment Plan Consultation Information Sheets were available to attendees including the Macedon Operations Commonwealth EP Information Sheet.
Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: <ul style="list-style-type: none"> ○ Advertisement in the Pilbara News on 4 October 2023 (Record of Consultation, reference 2.31.2.1). ○ Directly inviting local Traditional Custodian groups. ○ An EP consultation banner with QR code (linked to the Consultation Activities page on the Woodside website) was displayed along with current EP factsheets.
Estimated number of individuals / organisations consulted	16 October - Carnarvon – 3 17 October - Denham – 2 (Shire of Shark Bay)
Summary of Feedback, Objection or Claim	
<ul style="list-style-type: none"> • General interest in Woodside activities in the Pilbara • Discussion with the Shire of Shark Bay: Explained purpose of consultation for EPs Noted consultation based on an EMBA and no activities planned in Shark Bay Provided an overview of Woodside activities Shire advised it will provide a list of other relevant persons to consult, recognising the need to consult the community more broadly 	
Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	
Community members were able to engage with Woodside representatives to understand the proposed activity and how it may affect them, ask questions, and provide their feedback. Whilst feedback was received, there were no objections or claims. The community information sessions were part of Woodside’s broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2 of the EP).	

2.31.3.1 Pilbara News Advertisement (4 October 2023)

Pilbara NEWS
Wednesday, October 4, 2023

NEWS 13

MinRes in \$24m deal with local company

DANIEL SPENCE



Local Pilbara Indigenous-owned business Djeleanna Pty Ltd has been awarded a \$24 million contract by Mineral Resources as part of the company's flagship Onslow Iron project.

It is the largest contract MinRes has ever signed with an Indigenous-owned business, as well as the first contract awarded to Djeleanna Pty Ltd, which is a Robe River Kuruma business. The Robe River Kuruma people are the traditional owners of the land on which the Koro's bore mine site is located.

The four-year contract is for exploration earthworks at Koro's bore mine site, east of Onslow, including constructing access tracks, building drill pads, road maintenance and general earthworks.

Djeleanna Pty Ltd will employ about 10 people as part of the contract including a project manager, mechanics, operators and administration staff.

Djeleanna Pty Ltd owner Bevan Wally, who grew up on country, said: "The support provided by MinRes has given us the confidence and capacity to help establish and grow our business. MinRes have shown us action and given us commitments. It's unreal for them to invest and give us a go."

MinRes managing director Chris Ellison said that the company was proud to partner with businesses such as Djeleanna that had such a strong connection to country.

"Providing practical guidance and support, such as guaranteeing finance for equipment and plant, helps to build local capability and ensure Indigenous-owned businesses share in our success," he said.

At the contract signing ceremony in Perth, Mr Wally presented traditional gifts to Mr Ellison, including boomerangs, a shield and a long stick.



SUPPORTING OUR LOCAL COMMUNITIES

The MinRes Community Fund supports our commitment to making meaningful contributions to the communities in which we operate.

Grants of up to \$10,000 are available to eligible local organisations to support programs and events that help create strong, vibrant and healthy communities.

Applications are open to groups operating in the Pilbara and Goldfields Esperance regions or within the Shires of Yilgarn, Irwin and Mingenew.

Applications accepted between 1 to 31 October 2023.

TO APPLY
visit mineralresources.com.au/our-sustainability/community
or email communities@mr1.com.au



Schools to get a staff cash boost

DANIEL SPENCE

Pilbara schools will benefit from a multi-million-dollar cash injection from the State Government to recruit and retain staff.

Education Minister Tony Buti said the success of last year's temporary Regional Attraction and Incentive Package meant an additional 18 schools would benefit from \$15.49 million worth of incentive packages.

Schools in the Pilbara who will receive a boost include Broome Senior High School, Carnarvon Community College, Karratha Senior High School, Hedland Senior High School, Tom Price Senior High School and Newman Senior High School.

"The incentive helps rural schools to attract and recruit teachers and retain staff and school administrators at schools by providing additional financial incentives.

Staff members will receive between \$6000 and \$17,000 for working in rural and remote public schools for the 2024 school year.

The incentives will be paid in two instalments: the first at the start of the 2024 school year, the balance paid at the end of the 2024 school year.

Dr Buti said schools in regional and remote areas faced additional challenges when recruiting and retaining teachers.

"This significant investment will bring greater continuity for regional and remote students, their families, and the whole community," he said. The temporary Regional Attraction and Retention Incentive was initially allocated to 48 regional and remote schools.



FIND OUT MORE ABOUT OUR PROPOSED ACTIVITIES

ARE YOU INTERESTED IN WHAT WOODSIDE HAS PLANNED ON LAND AND SEA?

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Speak to our friendly team members at one of our sessions in October.

Monday, 16 October 2023 Between 10.00am - 2.00pm Gwoonwardu Mia 146 Robinson Street Carnarvon	Tuesday, 17 October 2023 Between 9.00am - 1.00pm Denham Town Hall Hughes Street Denham
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You can access our consultation information, provide feedback and subscribe for updates by scanning the QR code.




Government of Western Australia
Department of Health

Fluoridation for the Newman drinking water system

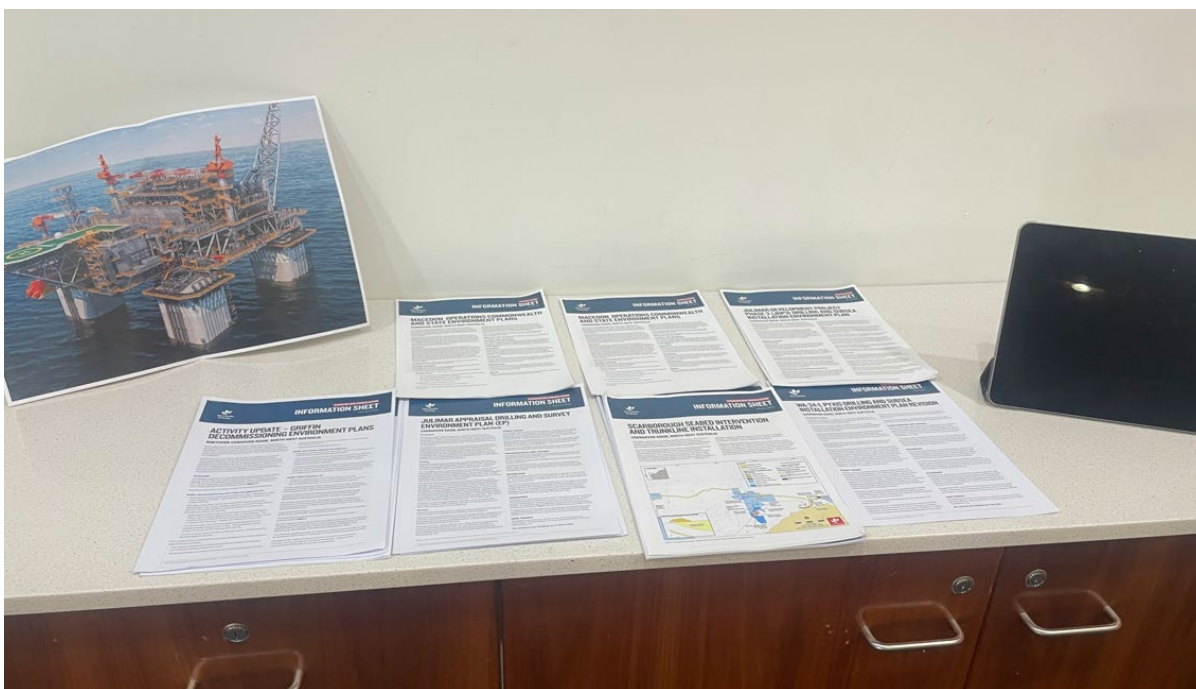
Community water fluoridation helps protect teeth against decay and is a safe and effective way of improving oral health. More than 92 percent of the Western Australian population, including the Perth metropolitan area and most large regional communities in the Pilbara and other parts of Western Australia, has benefited from fluoridation of drinking water for more than 40 years.

Fluoridation equipment has been installed at the water treatment plant servicing Newman and is now operational. As with similar plants located throughout Western Australia, the Department of Health will monitor the performance of the water treatment plant to ensure compliance with the Australian Drinking Water Guidelines and the Fluoridation of Public Water Supply Act 1968.

For more information please contact the Department of Health by email to skind@health.wa.gov.au or call 08 9222 2000 or visit health.wa.gov.au and search fluoridation.

Dr Andrew Robertson
Chief Health Officer

2.31.3.2 Banners and consultation sheets (16 October 2023)



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Revision: 0

Woodside ID: 1401760303

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2.31.3.3 Social media tile and story (9 to 16 October 2023)

Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Carnarvon.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Monday, 16 October 2023
Between 10.00am - 2.00pm
Gwoonwardu Mia
146 Robinson Street
Carnarvon




Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Carnarvon.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Monday, 16 October 2023
Between 10.00am - 2.00pm
Gwoonwardu Mia
146 Robinson Street
Carnarvon



Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Denham.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Tuesday, 17 October 2023
Between 9.00am - 1.00pm
Denham Town Hall
Hughes Street
Denham




Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Denham.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Tuesday, 17 October 2023
Between 9.00am - 1.00pm
Denham Town Hall
Hughes Street
Denham



2.31.3.4 Pilbara News Advertisement (11 October 2023)

Animal flight policy criticised

CAIN ANDREWS

A prominent pet adoption agency has slammed Qantas' animal flight policy claiming it will lead to the unnecessary deaths of hundreds of animals.

Over the past year, animal adoption agency Saving Animals From Euthanasia's regional branches in Broome, Newman, Hedland and Karratha collectively rescued 1826 animals with 82.8 per cent or 956 of them requiring air transport to get to their new homes.

But with Qantas now enforcing a "no-fly" policy for animals when temperatures are forecast to reach more than 35C SAFE founder Sue Hedley said rescue animals that required air transport might have to be destroyed.

"It is crucial to recognise that this policy alteration could have dire consequences for these animals. If they are unable to reach their destination and find new homes, they may tragically face euthanasia as an alternative," she said.

Ms Hedley said SAFE had engaged with Qantas to try to find alternative solutions such as waiters or only allowing animals on early morning flights on days over 35C but was knocked back by the company.

"In over 30 years of operation, SAFE has never had a death during transportation from regional areas to Perth, no matter the temperature," she said.

"Unfortunately, we have been advised that the policy will remain



Sue Hedley & Salem. PIC: Helen Oiler and that no exceptions will be made.

"We firmly believe that the risks associated with this policy extend far beyond those related to flying on a day when temperatures may reach 35C later in the day."

A Karratha woman, who only wishes to be identified as Simone, was told her two dogs would not be allowed to catch a Qantas flight on October 5 because of the policy.

According to Simone, at the last minute she was told her dogs could not catch the flight despite being told the night before her dog would be able to fly.

"It's ridiculous we're here with our dogs everything's packed, and we're going away as well.

"With the way things are in Karratha with the shortage of space available there's no one to look after our pets," she said.

"It's not just inconvenient, it's unethical as they're not even adhering to their own policy.



Simone's dogs faced being bumped off a Qantas flight because of the airline's heat policy.

"I get it's about animal safety but what is ridiculous is that the policy clearly states 35C and above and it (was) only 25C."

Qantas eventually made an exception for Simone and her dogs on the day, however, she claims she was told by those at the airport to not tell Ms Hedley about the incident.

Last year, temperatures in Karratha exceeded 35C on 106 days, with a consecutive period of 42 days over 35C between February 13 and March 26.

Responding to questions about the policy, a Qantas spokesperson said the policy was led by the International Pet and Animal Association and the International

Air Transport Association. "Qantas takes the safety and welfare of pets and animals who travel with us extremely seriously," the spokesperson said.

"This is why we don't transport pets when temperatures exceed 35C or fall below 5C, due to the stress and anxiety this could cause."

FIND OUT MORE ABOUT OUR PROPOSED ACTIVITIES

ARE YOU INTERESTED IN WHAT WOODSIDE HAS PLANNED ON LAND AND SEA?

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Speak to our friendly team members at one of our three sessions in October.

<p>Monday 16 October 2023 Between 10.00am - 2.00pm Gwoonwardu Mia 146 Robinson Street Carnarvon</p>	<p>Tuesday 17 October 2023 Between 9.00am - 1.00pm Denham Town Hall Hughes Street Denham</p>
<p>Monday 23 October 2023 Between 10.00am - 5.00pm Exmouth Chamber of Commerce and Industry 22 Maidstone Crescent Exmouth</p>	

You can access our consultation information, provide feedback and subscribe for updates by scanning the QR code.

Northwest Multicultural Show 2023

SATURDAY
14 OCTOBER 2023
1:00PM-5:00PM
RED EARTH ARTS PRECINCT

2.31.4 Exmouth Community Information Sessions (23 October 2023)

Location	Exmouth
Date	23 October 2023
Description of the consultation	Woodside hosted a community consultation session in Exmouth to enable community members to understand Woodside’s proposed activities and how it may affect them, ask questions, and provide their feedback. Woodside Project, Corporate Affairs, First Nations, Environment, and Biodiversity and Science representatives were available to answer questions. A number of Environment Plan Consultation Information Sheets were available to attendees including the Macedon Operations Commonwealth EP Information Sheet.
Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: <ul style="list-style-type: none"> • Advertisement in the Pilbara News on 11 October 2023 (Record of Consultation, reference 2.31.3.2). • Geotargeted social media campaign advertising in Exmouth and surrounding areas (+80 kms) from 2 to 9 October 2023 (Record of Consultation, reference 2.31.3.1). • Directly inviting local Traditional Custodian groups. • An EP consultation banner with QR code (linked to the Consultation Activities page on the Woodside website) was displayed at Woodside’s stand along with current EP factsheets.
Estimated number of individuals / organisations consulted	Exmouth – 2 (Exmouth Chamber of Commerce and Industry) Four individuals attended the information session. One from Gascoyne Green Energy, two Shire Councillors and a representative from Exmouth’s Chamber of Commerce and Industry.
Summary of Feedback, Objection or Claim	
Community members were able to engage with Woodside representatives to understand the proposed activity and how it may affect them, ask questions, and provide their feedback. <ul style="list-style-type: none"> • All stakeholders expressed they had seen the geotargeted ads on social media. • General interest in Woodside activities and interest in the social benefits to the local Exmouth community. This included encouragement for Woodside to promote and share the positive outcomes of Woodside’s presence and an offer from the Chamber to share information amongst its members. • General interest to understand what is involved in a marine seismic survey (MSS). Woodside presented its video on MSS. • General interest to understand the interaction of whales and MSS, and what mitigation measures are put in place for our activities. • Interest to understand how Woodside undertakes community consultation 	
Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims. The community information sessions were part of Woodside’s broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2 of the EP).	


2.31.4.1 Social media tile and story (2 – 9 October 2023)

Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Exmouth.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Monday, 23 October 2023
Between 10.00am - 5.00pm
Exmouth Chamber of Commerce and Industry
22 Maidstone Crescent
Exmouth




Are you interested in what Woodside has planned on land and sea?

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Exmouth Chamber of Commerce and Industry
22 Maidstone Crescent
Exmouth






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<u>Monday, 23 October 2023</u> Between 10.00am - 5.00pm Exmouth Chamber of Commerce and Industry 22 Maidstone Crescent Exmouth	

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2.31.4.2 Pilbara News Advertisement (11 October 2023)

Pilbara NEWS
Wednesday, October 11, 2023

pilbaranews.com.au

NEWS 5

Animal flight policy criticised

CAIN ANDREWS

A prominent pet adoption agency has slammed Qantas' animal flight policy claiming it will lead to the unnecessary deaths of hundreds of animals.

Over the past year, animal adoption agency Saving Animals From Euthanasia's regional branches in Broome, Newman, Hedland and Karratha collectively rescued 1826 animals with 62.8 per cent or 956 of them requiring air transport to get to their new homes.

But with Qantas now enforcing a "no-fly" policy for animals when temperatures are forecast to reach more than 35C SAFE founder Sue Hedley said rescue animals that required air transport might have to be destroyed.

"It is crucial to recognise that this policy alteration could have dire consequences for these animals. If they are unable to reach their destination and find new homes, they may tragically face euthanasia as an alternative," she said.

Ms Hedley said SAFE had engaged with Qantas to try to find alternative solutions such as earlier morning flights on days over 35C but was knocked back by the company.

"In over 29 years of operation, SAFE has never had a death during transportation from regional areas to Perth, no matter the temperature," she said.

"Unfortunately, we have been advised that the policy will remain



Sue Hedley & Salem. Pic: Helen Ocker

and that no exceptions will be made.

"We firmly believe that the risks associated with this policy extend far beyond those related to flying on a day when temperatures may reach 35C later in the day."

A Karratha woman, who only wishes to be identified as Simone, was told her two dogs would not be allowed to catch a Qantas flight on October 5 because of the policy.

According to Simone, at the last minute she was told her dogs could not catch the flight despite being told the night before her dog would be able to fly.

"It's ridiculous we're here with our dogs everything's packed, and we're going away as well."

"With the way things are in Karratha with the shortage of space available there's no one to look after our pets," she said.

"It's not just inconvenient, it's unethical as they're not even adhering to their own policy."



Simone's dogs faced being bumped off a Qantas flight because of the airline's heat policy.

"I get it's about animal safety but what is ridiculous is that the policy clearly states 35C and above and it (was) only 29C."

Qantas eventually made an exception for Simone and her dogs on the day, however, she claims she was told by those at the airport to not tell Ms Hedley about the incident.

Last year, temperatures in Karratha exceeded 35C on 108 days, with a consecutive period of 42 days over 35C between February 12 and March 26.

Responding to questions about the policy, a Qantas spokesperson said the policy was led by the International Pet and Animal Association and the International

Air Transport Association "Qantas takes the safety and welfare of pets and animals who travel with us extremely seriously," the spokesperson said.

"This is why we don't transport pets when temperatures exceed 35C or fall below 5C, due to the stress and anxiety this could cause."

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You can access our consultation information, provide feedback and subscribe for updates by scanning the QR code.

Northwest Multicultural Show 2023

SATURDAY
14 OCTOBER 2023
1:00PM-5:00PM
RED EARTH ARTS PRECINCT

2.32 Email sent to Chevron Australia, Osaka Gas Gorgon, Tokyo Gas Gorgon, JERA Gorgon (12 July 2023)

Dear Chevron

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
- State - Pipeline Licences TPL/23 (State waters), PL 88 (wet gas pipeline onshore) and PL 87 (dry gas pipeline onshore). The Macedon Gas Plant is located onshore approximately 17 km south-west of Onslow and is covered under separate approvals.

The EPs are being revised and resubmitted for the continued production of gas from the Macedon gas field, located in Commonwealth waters. Production is via four subsea wells and associated subsea infrastructure, with transport of the gas to an onshore processing plant via a subsea pipeline traversing State waters and extending onshore to the Macedon Gas Plant. From the Gas Plant, gas is then piped to the Dampier to Bunbury Natural Gas Pipeline.

Activity overview

Woodside plans to undertake the following activities during the next five-year period including routine production and operations; routine inspection, monitoring, maintenance, and repair (IMMR) activities of the:

- Four subsea wells (with potential for fifth)
- Two non-producing wells with wellheads
- Pipeline extending from the production wells offshore to the onshore Macedon Gas Plant then from the Plant to the Dampier to Bunbury Natural Gas Pipeline.

Woodside also plans to continue to undertake terrestrial rehabilitation and remediation activities associated with the Onshore Wet Gas and Dry Sales Gas Pipelines. The EPs also include non-routine activities and unplanned incidents associated with the above.

The drilling and installation associated with the potential fifth well will be the subject of a separate EP.

An updated Consultation Information Sheet is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

We would be grateful if you could please forward this consultation information to your Joint Venture participants Osaka Gas Gorgon, Tokyo Gas Gorgon and JERA Gorgon for feedback.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards

2.33 Email sent to Shire of Exmouth (12 July 2023)

Dear [REDACTED]

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.34 Email sent Exmouth Community Liaison Group (12 July 2023)

Dear Exmouth Community Liaison Group

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

- Commonwealth - Production Licence area WA-42-L and pipeline licence WA-23-PL, approximately 40 km north of Exmouth and 100 km west of Onslow, Western Australia; and
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If you have feedback specific to the proposed activities described under the proposed EP, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **28 July 2023**.

Regards,

Woodside Feedback

2.35 Email sent to Shire of Carnarvon (12 July 2023)

Dear [REDACTED]

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Regards,

Woodside Feedback

2.36 Email sent to Carnarvon Chamber of Commerce and Industry (12 July 2023)

Dear Carnarvon Chamber of Commerce and Industry

Woodside previously consulted you (email below) on its plans to submit a five (5) year revision of the Macedon Operations Commonwealth and State Environment Plans (EPs) (previously operated by BHP Petroleum Pty Ltd) in:

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Regards,

Woodside Feedback

APPENDIX G PROGRAM OF ONGOING ENGAGEMENT WITH TRADITIONAL CUSTODIANS

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Controlled Ref No: MACHSE-E-0014

Revision 11

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Proposed Program of Ongoing Engagement with Traditional Custodians

This Program of Ongoing Engagement with Traditional Custodians (“Program”) has been developed to demonstrate Woodside’s commitment to ongoing engagement and support of Traditional Custodians’ capacity to care for and manage Country, including Sea Country, and has been directly informed by Traditional Custodians’ feedback regarding their capacity to engage and consult on Environment Plans.

It is a living document designed to evolve with ongoing consultation and feedback from Traditional Custodians and, at a minimum, will be subject to annual review. In addition to this Program, Woodside will continue to participate in, and support collective industry engagement with Traditional Owners on the development of a future, sustainable, industry wide Program. Through the Program, Woodside actively supports Traditional Custodians’ capacity for, and involvement in, ongoing engagement and feedback on environment plans.

The Program has been developed so that Traditional Custodians can, on an ongoing basis, provide Woodside with feedback relating to the possible consequences of an activity to be carried out under an environment plan on their functions, interests and activities as they relate to cultural values. This feedback will be evaluated in conjunction with Traditional Custodians and, where necessary, avoidance or mitigation strategies in will be developed in collaboration with Traditional Custodians.

The Program enables Woodside to manage uncertainty on the impacts and risks to cultural values which may be identified at any time during Woodside’s activities via ongoing dialogue with Traditional Custodians.

How the Program is implemented with specific Traditional Custodians will depend on their stated needs and priorities

The Program is underpinned by Woodside’s First Nations Communities Policy ([woodside.com](http://www.woodside.com)), the objective of which is to ensure Woodside partners and engages with First Nations communities to create positive economic, social and cultural outcomes that leave a lasting legacy. Woodside does this through building respectful relationships and partnerships with First Nations communities where we are active, in the areas where they are most interested in. We acknowledge the unique connection that First Nations communities have to land, waters and the environment. .

The Program will include, as agreed with relevant communities, reasonable commitment to:

1. Support for ongoing dialogue and engagement

Woodside will support the capacity of Traditional Custodians to participate in ongoing dialogue and engagement about the environment plans and to enable the ongoing identification of cultural values potentially impacted by Woodside’s activities. Woodside further commits to agreeing consultation protocols with individual Traditional Custodians to ensure the material provided is appropriate in level of detail such that the potential for cultural impact from Woodside activities can be determined and as required measures can be adopted to avoid or minimise impact.

In addition, Woodside will receive feedback on cultural values from an individual person or organisation that identifies as a Traditional Custodian, at any stage during the development and implementation of activities. This feedback will be evaluated, in conjunction with the Traditional Custodian individual or group and if required, control measures will put in place to avoid impacts to cultural values, or where avoidance is not possible, to minimise and mitigate the impacts to an acceptable level.

Where cultural values are identified post activity completion, any controls relevant to value management will be implemented during the next relevant activity.

2. Support for the identification and recording of cultural features

Woodside will support Traditional Custodians to record and articulate their Sea Country values and will invest in cultural assessments codesigned with Traditional Custodians, where required, to inform potential risks to cultural values from our petroleum activities.

This may include supporting cultural mapping by Traditional Custodians to identify and map significant cultural features including archaeological sites and other cultural values. The scoping of the mapping process will be codesigned with Traditional Custodians.

Woodside understands that cultural knowledge remains the intellectual property of Traditional Custodians and will agree with Traditional Custodians at the outset how that information from surveys will be used to feedback into and inform the environment plan's design and implementation.

In addition, Woodside applies the Cultural Heritage Management Procedure 2019, updated in 2023, to the Program which:

- provides a process for the identification, protection, and management of Cultural Heritage taking into account relevant standards, in particular, the United Nations Declaration on the Rights of Indigenous Peoples, the Charter for the Protection and Management of the Archaeological Heritage, the Convention for the Safeguarding of the Intangible Cultural Heritage, and the Convention on the Protection of the Underwater Cultural Heritage;
- applies to underwater cultural heritage and, consistent with current practice, provides for the commissioning of (where appropriate) both archaeological and ethnographic assessments of cultural values over the submerged landscape; and
- the process includes the following:
 - early engagement with relevant Traditional Custodians
 - identification of potential heritage, this could include desktop and field surveys undertaken with the Traditional Custodians.
- the development of cultural management strategies; and, where it is determined cultural heritage may be impacted, the development of Cultural Heritage Management Plans codesigned with Traditional Custodians and implemented by Woodside's First Nations team which:
 - focus on avoidance or minimisation of impacts; and
 - provide regular reviews and for inclusion of new information and further development of the Cultural Heritage Management Plan.

Woodside is committed to continue to receive feedback on cultural values for the life of an environment plan, the inclusion of new information and the development of avoidance or mitigation strategies in collaboration with Traditional Custodians. This information will be recorded via the Woodside Management of Knowledge Process and any potential impacts to the accepted Environment Plan evaluated via the Woodside Management of Change Process.

3. Building capacity for the ongoing protection of country

Woodside will support measures to increase the capability and capacity of the Traditional Custodian groups. This is guided by Woodside's Indigenous Affairs Strategy 2019 ("Strategy"), which is designed to enable the building and maintaining of relationships with Traditional Custodians to leave a lasting legacy, including strengthening of Traditional Custodians' capacity to care for and manage Country, including Sea Country. The Strategy was developed with inputs from Traditional Custodians and contains four pillars that direct Woodside's social investment, policies relating to economic development, procurement and employment, and Woodside's agreement making and implementation of agreements. The pillars are:

1. Culture and Heritage Management: support social outcomes through protection, recognition and respect for culture and heritage;
2. Economic Participation: provide training, jobs, and business opportunities;

3. Capability and capacity: ensure strong corporate governance, leadership development and education initiatives to support self-determination; and
4. Safer and Healthier Communities: partner with Aboriginal people and service providers to maximise safer and healthier community outcomes.

Woodside is committed to an ongoing relationship between Woodside and the Traditional Custodian groups. Through consultation with Traditional Custodians Woodside will continue to:

- establish support for Indigenous ranger programs via social investment;
- establish support for Indigenous oil spill response capability via investigating training models;
- establish support for identification and recording of cultural values and the management of that information by Traditional Custodians;
- establish support for programs identified by the Traditional Custodians as important to them and as agreed by Woodside.

4. Support for capacity and capability in relation to governance

Pillar 3 of the Indigenous Affairs Strategy 2019 focuses on ensuring strong corporate governance, leadership development and education initiatives to support self-determination. To enable this, Woodside will support measures to increase the capability and capacity of the Traditional Custodian groups, including in relation to governance and management systems.

The nature of this support will be informed by the individual needs of Traditional Custodian groups, but may include:

- funding or other support for community meetings, particularly where consultation with representative bodies lies outside of that body's core business and cultural authority or mandate needs to be secured,
- resourcing internal expertise so that information is managed consistently and internally, including ensuring appropriate record keeping of consultation to provide stakeholders with a lasting record of discussions, and
- development or upgrade of IT systems to manage information.

Program Reporting and Review of Effectiveness

Woodside will undertake an annual review of the Program to assess its effectiveness and adapt the Program accordingly. The annual review will also include an assessment of appropriateness of the methods used to undertake ongoing consultation with Traditional Custodians. Progress of the Program will be reported annually in line with annual sustainability reporting via the Woodside website.

A commitment to the Program will be included in all new and revised Environment Plans in the format below:

Environmental Performance Outcome	Environmental Performance standards	Measurement Criteria
EPO 1 Woodside will actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans for the purpose of avoiding impacts to cultural heritage values	Applicable to all EPs: EPS 1.1 Implement a program, which is compliant with Corporate Woodside Policies Strategies and procedures, to undertake ongoing consultation with Traditional Custodians whose functions, interests and activities may be affected by the Petroleum Activities Program. The Program will include, where agreed with relevant Traditional Custodians: <ul style="list-style-type: none"> • Social investment to support Indigenous ranger programs • Support for Indigenous oil spill response capabilities • Support for recording Sea Country values • Support to Traditional Custodian groups to build capabilities and capacity with respect to ability to engage with Woodside and the broader O&G industry on activities • Development of ongoing relationships with Traditional Custodian groups • Any other initiatives proposed for the purpose of protecting country including cultural values • Consideration of cultural values / new information, through the life of the EP, and the development of avoidance or mitigation strategies in collaboration with Traditional Custodians if impacts to cultural values are identified. Where avoidance is not possible, impact minimisation will be prioritised and demonstrated through a written options analysis / ALARP to ensure an acceptable level of impact. This will be document through the Woodside's Management of Change and Management of Knowledge 	MC1.1 Records demonstrate discussions with relevant Traditional Custodian Groups on proposed partnerships and/or initiatives initiated by Woodside, and responses to feedback provided by Woodside within 4 weeks MC 1.2 Progress of the Program will be reported in line with annual sustainability reporting via the Woodside website. MC 1.3 Records demonstrate Change Management and Management of Knowledge processes have been followed where new controls or management measures identified
	EPS 1.2 Undertake an annual review of the program to determine its effectiveness and adapt the program accordingly. The annual review will also include an assessment of appropriateness of the methods used to undertake ongoing consultation with Traditional Custodians.	MC 1.4 Records demonstrate an annual review of the Program has been undertaken

APPENDIX H OIL SPILL PREPAREDNESS AND RESPONSE STRATEGY SELECTION AND EVALUATION

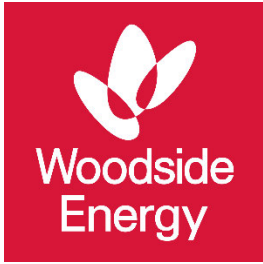
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Oil Spill Preparedness and Response Mitigation Assessment for Macedon Operations (Cwth)

Corporate HSE

Hydrocarbon Spill Preparedness

February 2024

Revision 0a

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EXECUTIVE SUMMARY

Woodside Energy Ltd (Woodside) has developed its oil spill preparedness and response position for the Macedon Operations (Cwth) Environment Plan, hereafter known as the Petroleum Activities Program (PAP). This document outlines Woodside's decisions and techniques for responding to a hydrocarbon loss of containment event and the process for determining its level of hydrocarbon spill preparedness.

This document demonstrates that the risks and impacts from an unplanned hydrocarbon release, and the associated response operations, are controlled to As Low as Reasonably Practicable (ALARP) and Acceptable levels. It achieves this by evaluating response options to address the potential environmental impacts resulting from an unplanned loss of hydrocarbon containment associated with the PAP described in the Environment Plan (EP). This document then outlines Woodside's decisions and techniques for responding to a hydrocarbon release event and the process for determining its level of hydrocarbon spill preparedness.

A summary of the key facts and references to additional detail within this document are presented below.

Table 0-1: Summary of the key details for assessment

Key details of assessment	Summary	Reference to additional detail
Worst Case Credible Scenario	<p>Credible Scenario (CS-01): Instantaneous surface release of Marine Diesel Oil (MDO) at the Macedon Well Centre.</p> <p>Lat: 21° 34' 17.46" S, Long: 114° 11' 47.008" E</p> <p>Instantaneous release of 125 m³ of MDO.</p> <p>5% residual component of 6.25 m³</p>	Section 2.2
Other Credible Scenario	<p>Credible Scenario-02 (CS-02): Loss of well containment from Macedon-7 well due to loss of Xmas tree and subsurface safety valve ability to emergency close</p> <p>Lat: 21° 33' 50.80" S, Long: 114° 13' 24.17" E</p> <p>Dry gas release over 69 days – no liquid hydrocarbon is expected at atmospheric temperatures.</p>	
Hydrocarbon Properties	<p>MDO</p> <p>MDO contains a low proportion (~5% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures. The unweathered mixture has a dynamic viscosity of 4 cP (at 25 °C).</p> <p>The mixture 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.</p> <p>Evaporation rates will increase with temperature, but in general about 6% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 35% should evaporate within the first 24 hours (180°C < BP < 380 °C); and a further 54% should evaporate over several days (265°C < BP < 380 °C).</p> <p>Dry gas</p> <p>The Macedon reservoir properties are dry gas, primarily methane (approximately 94%) and nitrogen (approximately 5%). No liquid hydrocarbons are expected at atmospheric conditions.</p>	<p>Section 6.7 of the EP</p> <p>Appendix A of the First Strike Plan</p>

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Modelling Results	Stochastic modelling		Section 2.3	
	<p>A quantitative, stochastic assessment has been undertaken for credible spill scenarios to help assess the environmental risk of a hydrocarbon spill.</p> <p>200 replicate simulations were completed for the scenarios to test for trends and variations in the trajectory and weathering of the spilled oil, with an even number of replicates completed using samples of metocean data that commenced within each season.</p>			
		<p>CS- 01: Instantaneous hydrocarbon release of 125 m³ of MDO</p>		<p>CS-02: Loss of well containment from Macedon-7 well due to loss of Xmas tree and subsurface safety valve ability to emergency close</p> <p>Dry gas release – no liquid hydrocarbon.</p>
	Minimum time to floating hydrocarbon contact with the offshore edge(s) of any shoreline receptor polygon (>10 g/m ²)	36 hours to Exmouth Coastline, Ningaloo Coast WH, and Ningaloo Marine Park (State).		N/A – dry gas
	Minimum time to commencement of oil accumulation at any shoreline receptor (>100 g/m ²)	No contact reached at this threshold.		N/A – dry gas
	Maximum cumulative oil volume accumulated at any individual shoreline receptor (>100 g/m ²)	No contact reached at this threshold. (3 m ³ at Exmouth Coast (including, Ningaloo Coast WH, and Ningaloo MP (State) below feasible response threshold).		N/A – dry gas
	Maximum cumulative oil volume accumulated across all shoreline receptors (>100 g/m ²)	No contact reached at this threshold. (3 m ³ at Exmouth Coast (including, Ningaloo Coast WH, and Ningaloo MP (State) below feasible response threshold).		N/A – dry gas
	Minimum time to entrained/dissolved hydrocarbon contact with the	5 hours to Ningaloo Marine Park and Ningaloo WH waters.		N/A – dry gas

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	offshore edges of any receptor polygon (> 100 ppb)			
Net Environmental Benefit Analysis	Operational monitoring, source control via capping stack, source control via relief well drilling, source control via vessel SOPEP, protection and deflection, and oiled wildlife response are all identified as potentially having a net environmental benefit (dependent on the actual spill scenario) and carried forward for further assessment.			Section 0
ALARP evaluation of selected response techniques	The evaluation of the selected response techniques shows the proposed controls reduced the risk to an ALARP and Acceptable level for the risk presented in Section 2, without the implementation of considered additional, alternative or improved control measures.			Section 7

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1 INTRODUCTION

1.1 Overview

Woodside Energy Ltd (Woodside) has developed its oil spill preparedness and response position for the Macedon Operations (Cwth) Environment Plan, hereafter known as the Petroleum Activities Program (PAP). This document outlines Woodside's decisions and techniques for responding to a hydrocarbon loss of containment event and the process for determining its level of hydrocarbon spill preparedness.

1.2 Purpose

This document, together with the documents listed below, meet the requirements of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Environment Regulations) relating to hydrocarbon spill response arrangements.

- The Macedon Operations Environment Plan (EP) (Cwth)
- Oil Pollution Emergency Arrangements (OPEA) (Australia)
- The Macedon Oil Pollution Emergency Plan (OPEP) (Cwth) including:
 - First Strike Plan (FSP)
 - Relevant Operations Plans
 - Relevant Tactical Response Plans (TRPs)
 - Relevant Supporting Plans
 - Data Directory.

The purpose of this document is to demonstrate that the risks and impacts from an unplanned hydrocarbon release and the associated response operations are controlled to As Low as Reasonably Practicable (ALARP) and Acceptable levels.

1.3 Scope

This document demonstrates that the risks and impacts from an unplanned hydrocarbon release, and the associated response operations, are controlled to As Low as Reasonably Practicable (ALARP) and Acceptable levels. It achieves this by evaluating response options to address the potential environmental risks and impacts resulting from an unplanned loss of hydrocarbon containment associated with the PAP described in the EP. This document then outlines Woodside's decisions and techniques for responding to a hydrocarbon release event and the process for determining its level of hydrocarbon spill preparedness. It should be read in conjunction with the documents listed in Table 1-1. The location of the Petroleum Activity Program is shown in Figure 3-1 of the EP.

1.4 Oil spill response document overview

The documents outlined in Table 1-1 and Figure 1-1 are collectively used to manage the preparedness and response for a hydrocarbon release.

The Oil Pollution First Strike Plan (FSP) contains a pre-operational Net Environmental Benefit Analysis (NEBA) summary, outlining the selected response techniques for this PAP. Relevant Operational Plans to be initiated for associated response techniques are identified in the FSP and relevant forms to initiate a response are appended to the FSP.

The process to develop an Incident Action Plan (IAP) begins once the Oil Pollution FSP is underway. The IAP includes inputs from the Operational Monitoring operations and the operational NEBA

(Section 0). Planning, coordination and resource management are initiated by the Incident Management Team (IMT). In some instances, technical specialists may be utilised to provide expert advice. The planning may also involve liaison officers from supporting government agencies.

During each operational period, field reports are continually reviewed to evaluate the effectiveness of response operations. In addition, the operational NEBA is continually reviewed and updated to ensure the response techniques implemented continue to result in a net environmental benefit (Section 0).

The response will continue as described in Section 5 until the response termination criteria have been met.

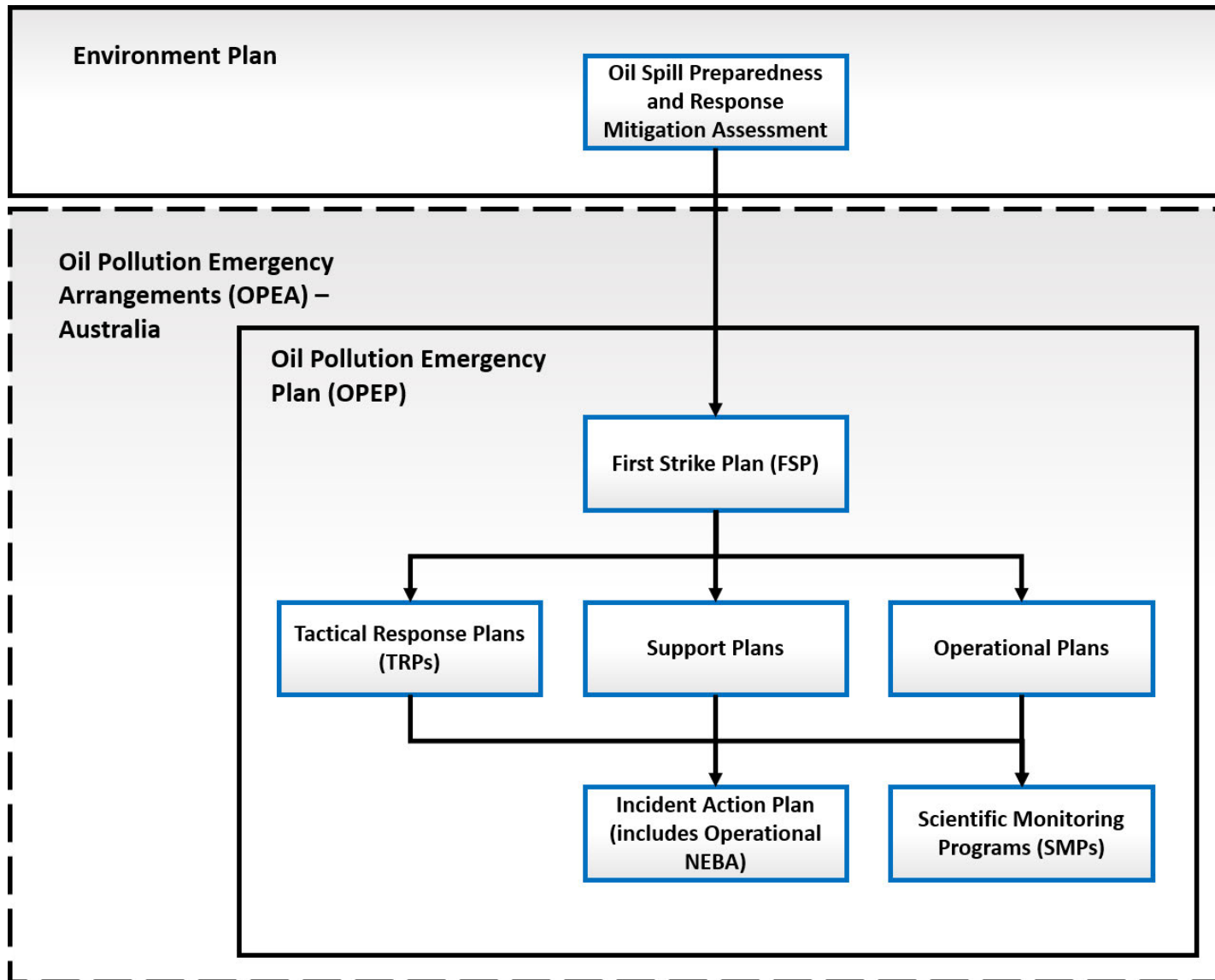


Figure 1-1: Woodside hydrocarbon spill document structure

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Table 1-1: Hydrocarbon Spill preparedness and response – document references

Document	Document overview	Stakeholders	Relevant information	Document subsections (if applicable)
Macedon Operations Environment Plan (EP) (Cwth)	Demonstrates that potential adverse impacts on the environment associated with the Macedon Operations (during both routine and non-routine operations) are mitigated and managed to As Low As Reasonably Practicable (ALARP) and will be of an acceptable level.	NOPSEMA Woodside internal	EP Section 4 (Identification of receptors that may be affected by environmental risks and impacts from the activity) EP Section 6 (Performance outcomes, standards and measurement criteria, and evaluation of environmental risks and impacts, including credible spill scenarios) EP Section 7 (Implementation strategy – including emergency preparedness and response, and Reporting and compliance)	
Oil Pollution Emergency Arrangements (OPEA) Australia	Describes the arrangements and processes adopted by Woodside when responding to a hydrocarbon spill from a petroleum activity.	Regulatory agencies Woodside internal	All	
Oil Spill Preparedness and Response Mitigation Assessment for the Macedon Operations (Cwth) (this document)	Evaluates response options to address the potential environmental impacts resulting from an unplanned loss of hydrocarbon containment associated with the PAP described in the EP.	Regulatory agencies Corporate Incident Management Team (CIMT): Control function in an ongoing spill response for activity-specific response information.	All Performance outcomes, standards and measurement criteria related to hydrocarbon spill preparedness and response are included in this document.	
Macedon Operations Oil Pollution First Strike Plan (Cwth)	Facility specific document providing details and tasks required to mobilise a first strike response.	Site-based IMT for initial response, activation and notification. CIMT for initial response, activation and notification.	Initial notifications and reporting required within the first 24 hours of a spill event.	

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Document	Document overview	Stakeholders	Relevant information	Document subsections (if applicable)
	<p>Primarily applied to the first 24 hours of a response until a full Incident Action Plan (IAP) specific to the event is developed.</p> <p>Oil Pollution First Strike Plans are intended to be the first document used to provide immediate guidance to the responding Incident Management Team (IMT).</p>	<p>CIMT: Control function in an ongoing spill response for activity-specific response information.</p>	<p>Relevant spill response options that could be initiated for mobilisation in the event of a spill.</p> <p>Recommended pre-planned tactics.</p> <p>Details and forms for use in immediate response. Activation process for oil spill trajectory modelling, aerial surveillance and oil spill tracking buoy details.</p>	
Operational Plans	<p>Lists the actions required to activate, mobilise and deploy personnel and resources to commence response operations.</p> <p>Includes details on access to equipment and personnel (available immediately) and steps to mobilise additional resources depending on the nature and scale of a release.</p> <p>Relevant operational plans will be initially selected based on the Oil Pollution First Strike Plan; additional operational plans will be activated depending on the nature and scale of the release.</p>	<p>CIMT: Operations and Logistics Sections for first strike activities.</p> <p>CIMT: Planning Section to help inform the IAP on resources available.</p>	<p>Locations from where resources may be mobilised.</p> <p>How resources will be mobilised.</p> <p>Details of where resources may be mobilised to and what facilities are required once the resources arrive.</p> <p>Details on how to implement resources to undertake a response.</p>	<p>Operational Monitoring Plan</p> <p>Source Control Emergency Response Plan</p> <p>Vessel Shipboard Oil Pollution Emergency Plan (SOPEP)</p> <p>Protection and Deflection</p> <p>Oiled Wildlife</p> <p>Scientific Monitoring</p>

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Document	Document overview	Stakeholders	Relevant information	Document subsections (if applicable)
Tactical Response Plans	Provides options for response techniques in selected RPAs. Provides site, access and deployment information to support a response at the location.	CIMT: Planning Section to help develop IAPs, and Logistics Function to assist with determining resources required.	Indicative response techniques. Access requirements and/or permissions. Relevant information for undertaking a response at that site. Where applicable, may include equipment deployment locations and site layouts.	For full list of potentially relevant Tactical Plans for the Macedon Operations (Cwth) oil spill response, refer to ANNEX E: Tactical Response Plans.
Support Plans	Support Plans detail Woodside's approach to resourcing and the provision of services during a hydrocarbon spill response.	CIMT: Operations, Logistics and Planning Sections.	Technique for mobilising and managing additional resources outside of Woodside's immediate preparedness arrangements.	Logistics Support Plan Aviation Support Plan Marine Support Plan Accommodation & Catering Plan – Australia Transport Management Plan – Australia Waste Management Plan – Australia Health and Safety Support Plan Hydrocarbon Spill Responder Health Monitoring Guidelines People and Global Capability (Surge Labour Requirements) Support Plan (Land Based) Security Support Plan Stakeholder Engagement Support Plan

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Document	Document overview	Stakeholders	Relevant information	Document subsections (if applicable)
				Guidance for Hydrocarbon Spill Claims Management Communications Support Plan – Australia

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2 RESPONSE PLANNING PROCESS

This document details Woodside's process for identifying potential response options for the hydrocarbon release scenarios, identified in the EP. Figure 2-1 outlines the interaction between Woodside's response, planning/ preparedness and selection process.

This structure has been used because it shows how the planning and preparedness activities inform a response and provides indicative guidance on what activities would be undertaken, in sequential order, if a real event were to occur. The process also evaluates alternative, additional and/or improved control measures specific to the PAP.

The Macedon Operations First Strike Plan (Cwth) then summarises the outcome of the response planning process and provides initial response guidance and a summary of ongoing response activities, if an incident were to occur.

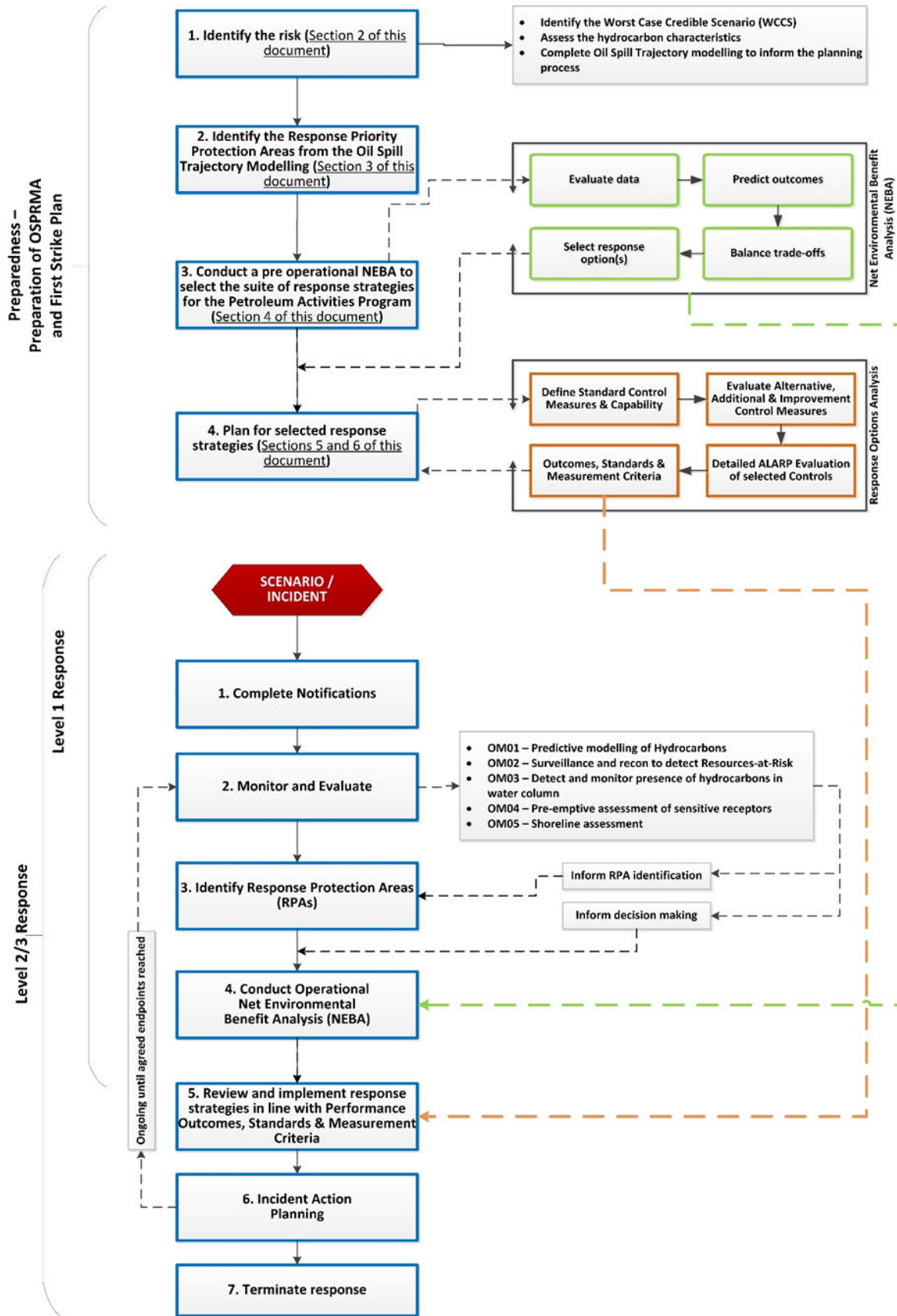


Figure 2-1: Response planning and selection process

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2.1 Response planning process outline

This document is expanded below to provide additional context on the key steps in determining capability, evaluating ALARP and hydrocarbon spill response requirements.

- Section 1. INTRODUCTION
- Section 2. RESPONSE PLANNING PROCESS
 - identification of worst-case credible scenario(s) (WCCS)
 - spill modelling for WCCS.
- Section 3. IDENTIFY RESPONSE PROTECTION AREAS (RPAs)
 - areas predicted to be contacted at concentration >100 g/m².
- Section 4. NET ENVIRONMENTAL BENEFIT ANALYSIS (NEBA)
 - pre-operational NEBA (during planning/ ALARP evaluation): this must be reviewed during the initial response to an incident to ensure its accuracy
 - selected response techniques prioritised and carried forward for ALARP assessment.
- Section 5. HYDROCARBON SPILL ALARP PROCESS
 - determines the response need based on predicted consequence parameters.
 - details the environmental performance of the selected response options based on need.
 - sets the environmental performance outcomes, environmental performance standards and measurement criteria.
- Section 6. ALARP EVALUATION
 - evaluates alternative, additional, and improved options for each response technique to demonstrate the risk has been reduced to ALARP.
 - provides a detailed ALARP assessment of selected control measure options against:
 - predicted cost associated with implementing the option
 - predicted change to environmental benefit
 - predicted effectiveness / feasibility of the control measure.
- Section 7. ENVIRONMENTAL RISK ASSESSMENT OF SELECTED RESPONSE TECHNIQUES
 - evaluation of impacts and risks from implementing selected response options.
- Section 8. ALARP CONCLUSION
- Section 9. ACCEPTABILITY CONCLUSION

2.1.1 Response Planning Assumptions

Figure 2-2 illustrates the initial steps of a response to an oil spill event and, where available, the indicative timing. For the latter stages, the timing will be specific to the selective response option.

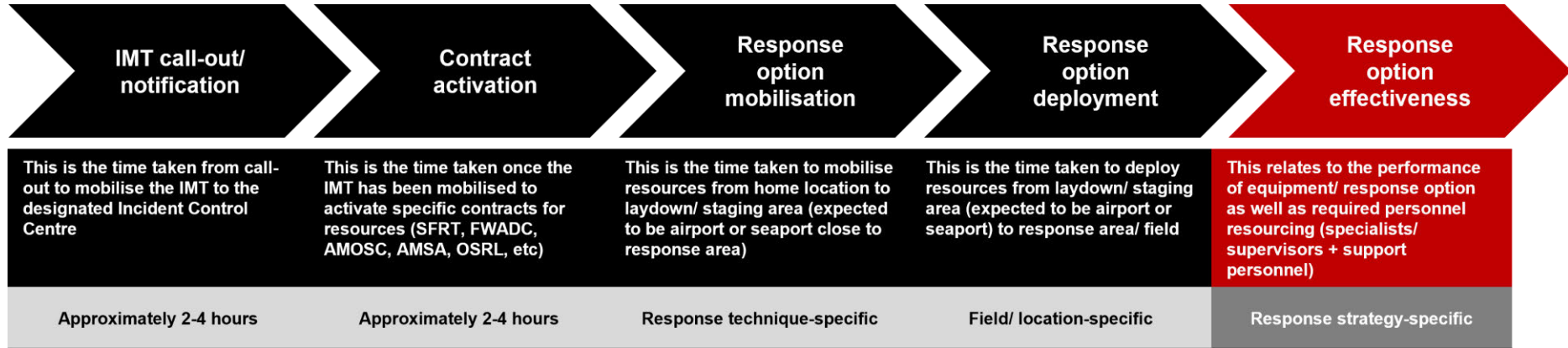


Figure 2-2: Response planning assumption – timing, resourcing and effectiveness

2.2 Environment plan risk assessment (credible spill scenarios)

Potential hydrocarbon release scenarios from the PAP have been identified during the risk assessment process (Section 6.7 of the EP). Further descriptions of risk, impacts and mitigation measures (which are not related to hydrocarbon preparedness and response) are provided in Section 6.6 of the EP. One unplanned events or credible spill scenarios for the PAP have been selected as representative across types, sources and incident/response levels, up to and including the WCCS.

Table 2-1 presents the credible scenario for the PAP. The WCCS for the activity is then used for response planning purposes, as all other scenarios are of a lesser scale and extent. By demonstrating capability to manage the response to the WCCS, Woodside assumes other scenarios that are smaller in nature and scale can also be managed by the same capability. Response performance measures have been defined based on a response to the WCCS.

Vessel Collision scenario (CS-01) has been modelled and is considered to determine the WCCS for response planning purposes. Although the release volumes are smaller than the Macedon Operations subsea loss of well containment release (CS-02), the residual hydrocarbon component is higher, which leads to shoreline accumulation. Due to this shoreline loading for the vessel collision release, this scenario is selected for planning purposes and is used to inform the shoreline response.

Table 2-1: Petroleum Activities Program credible spill scenarios

Credible Spill Scenarios	Scenario selected for planning purposes	Scenario description	Maximum credible volume released (liquid m ³) ¹	Incident level	Hydrocarbon type	Residual proportion	Residual volume (m ³)
Credible Scenario-01 (CS-01) (WCCS)	Yes	An instantaneous release of 125 m ³ marine diesel from a single tank caused by a vessel collision at the Macedon Well centre.	125 m ³ of Marine Diesel over 21 days	2	MDO	5%	6.25 m ³
Credible Scenario-02 (CS-02)	Yes	Loss of well containment from Macedon-7 well due to loss of Xmas tree and subsurface safety valve ability to emergency close	Dry gas release – no liquid hydrocarbon is expected at atmospheric temperatures.	3	Dry gas	N/A – dry gas	N/A – dry gas

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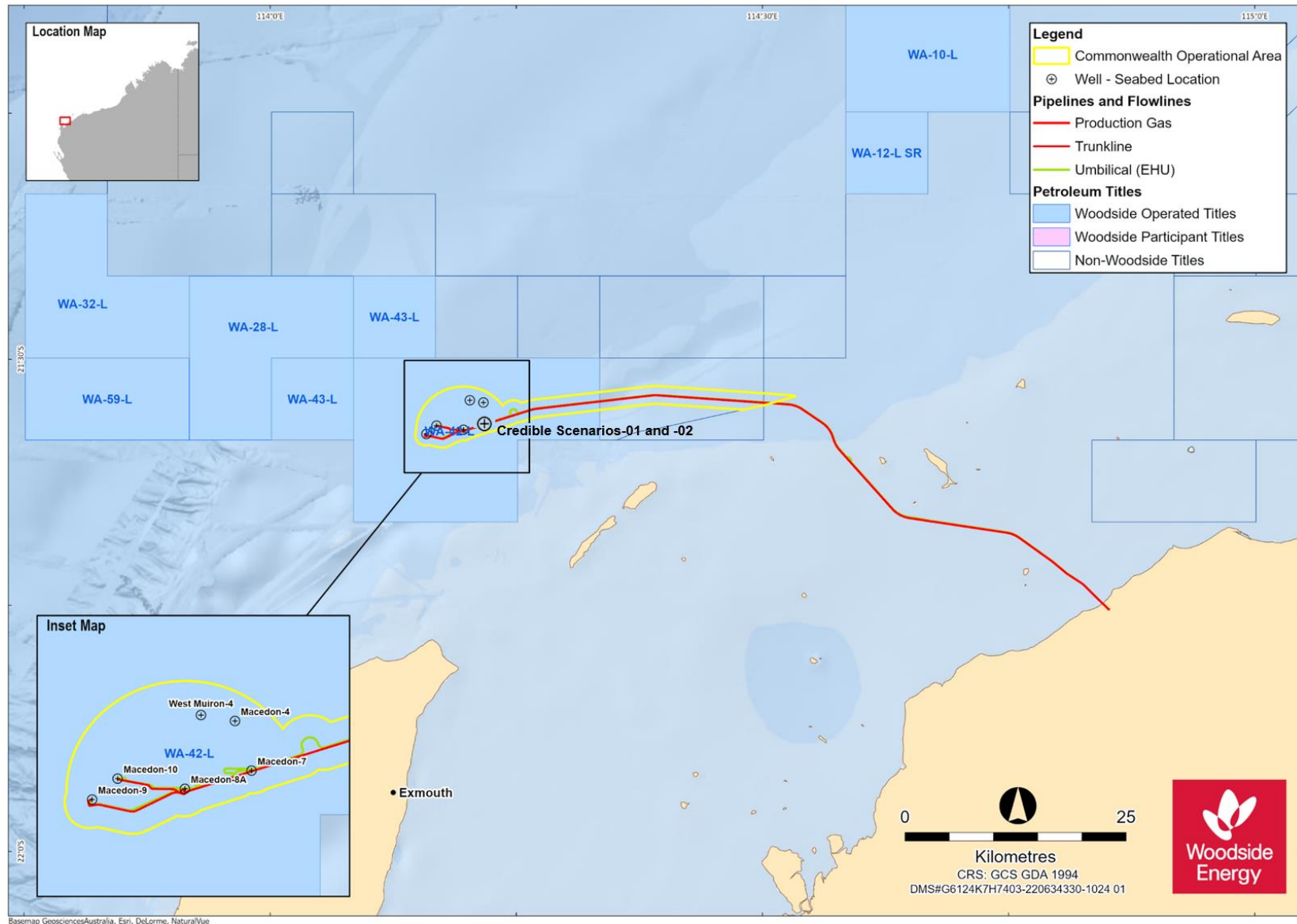


Figure 2-3: Location of the modelled hydrocarbon spill scenarios

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2.2.1 Hydrocarbon characteristics

Hydrocarbon characteristics, including modelled weathering data and ecotoxicity, are included in Section 6.7.6.1 of the EP.

MDO (CS-01)

MDO is typically classed as an International Tanker Owners Federation (ITOPF) Group I/II oil.

Marine Diesel is a mixture of volatile and persistent hydrocarbons with low proportions of highly volatile and residual components. In general, about 6% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 35% should evaporate within the first 24 hours (180 °C < BP < 265 °C); and a further 54% should evaporate over several days (265 °C < BP < 380 °C). Approximately 5% of the oil is shown to be persistent. The aromatic content of the oil is approximately 3%.

If released in the marine environment and in contact with the atmosphere (i.e., surface spill), approximately 41% by mass of this oil is predicted to evaporate over the first couple of days depending upon the prevailing conditions, with further evaporation slowing over time. The heavier (low volatility) components of the oil tend to entrain into the upper water column due to wind-generated waves but can subsequently resurface if wind-waves abate. Therefore, the heavier components of this oil can remain entrained or on the sea surface for an extended period, with associated potential for dissolution of the soluble aromatic fraction.

Dry gas (CS-02)

The Macedon reservoir properties are dry gas, primarily methane (approximately 94%) and nitrogen (approximately 5%), with limited heavier hydrocarbon components. No liquid hydrocarbons are expected at atmospheric conditions.

2.3 Hydrocarbon spill modelling

Oil spill trajectory modelling tools are used for environmental impact assessment and during response planning to understand spatial scale and timeframes for response operations. Woodside recognises that there is a degree of uncertainty related to the use of modelling data and has subsequently utilised conservative approaches to volumes, weathering, spatial areas, timing and response effectiveness to scale capability to need.

The Oil Spill Model and Response System (OILMAP) and Integrated Oil Spill Impact Model System (SIMAP) models are both used for stochastic and deterministic trajectory modelling. They have been developed over three decades of planning, exercises, actual responses, several peer reviews, and validation studies. OILMAP was originally derived from the United States Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Type A model (French et al. 1996), for assessing marine transport, biological impact and economic damage that was also used under the United States Oil Pollution Act 1990 Natural Resource Damage Assessment (NRDA) regulations. Notable spills where the model has been used and validated against actual field observations include, Exxon Valdez (French McCay 2004), North Cape Oil Spill (French McCay 2003), along with an assessment of 20 other spills (French McCay and Rowe, 2004). In addition, test spills designed to verify fate, weathering and movement algorithms have been conducted regularly and in a range of climate conditions (French and Rines 1997; French et al. 1997; Payne et al. 2007; French McCay et al. 2007).

Further to this, the algorithms have been updated using the latest findings from the Macondo/Deepwater Horizon well blowout in the Gulf of Mexico and validated according to the Deepwater Horizon (DWH) oil spill in support of the NRDA (Spaulding et al. 2015; French McCay et al. 2015, 2016). Finally, the OILMAP and SIMAP models have been used extensively in Australia to prosecute pollution offences, predict discharge locations and likely spill volumes based on weathering and surveillance observations, and has been used as expert witness evidence in Australian court proceedings, aiding the prosecution to determine spill quantum estimates.

2.3.1 Stochastic modelling

Quantitative, stochastic assessments have been undertaken for the credible spill scenarios (refer to Table 2-1) to help assess the environmental consequences of a hydrocarbon spill.

A total of 100 replicate simulations were completed for each of the scenarios to test for trends and variations in the trajectory and weathering of the spilled oil, with an even number of replicates completed using samples of metocean data that commenced within each calendar quarter (25 simulations per quarter). Further details relating to the assessments for the scenarios can be found in Section 6 of the EP.

2.3.1.1 Environmental impact thresholds – Environment that May Be Affected (EMBA) and hydrocarbon exposure

The outputs of the stochastic spill modelling are used to assess the potential environmental impact from the credible scenarios. The stochastic modelling results are used to delineate areas of the marine and shoreline environment that could be exposed to hydrocarbon levels exceeding environmental impact threshold concentrations. The summary of all the locations where hydrocarbon thresholds could be exceeded by any of the simulations modelled is defined as the EMBA and is discussed further in Section 6 of the EP. As the weathering of different fates of hydrocarbons (surface, entrained and dissolved) differs due to the influence of the metocean mechanism of transportation, a different EMBA is presented for each fate within the EP.

A conservative approach – adopting accepted accumulation thresholds for impacts on the marine environment – is used to define the EMBA. These hydrocarbon thresholds are presented in Table 2-2 below and described in Section 6 of the EP.

Table 2-2: Summary of thresholds applied to the stochastic hydrocarbon spill modelling to determine the EMBA and environmental impacts

Hydrocarbon	Surface hydrocarbon (g/m ²)	Dissolved hydrocarbon (ppb)	Entrained hydrocarbon (ppb)	Accumulated hydrocarbon (g/m ²)
Condensate	10	50	100	100
Diesel	10	50	100	100

2.3.2 Deterministic modelling

Woodside uses deterministic modelling results to evaluate risks and impacts and response capability requirements. These results are provided in both shapefile and data table format with each row of the data table representing a 1 km² cell. This cell size has been used as it represents the approximate area a single containment and recovery operation or surface dispersant operation (single sortie or vessel spraying) can effectively treat in one ten (10) hour day.

Deterministic modelling is undertaken where initial stochastic modelling has indicated that floating oil is present at an impact threshold of >50 g/m² and/or where there are shoreline accumulations at an impact threshold of >100 g/m². Stochastic modelling for this CS-01 did not predict contact at the trigger threshold concentrations, therefore deterministic modelling was not required and stochastic modelling has been used to scale the response.

Woodside is committed to a realistic, scalable response capability commensurate to the level of risk and able to be practically implemented and feasibly sustained.

2.3.3 Response planning thresholds for surface and shoreline hydrocarbon exposure

Thresholds to determine the EMBA are used to predict and assess environmental impacts and inform the Scientific Monitoring Program (SMP), however they do not appropriately represent the thresholds at which an effective response can be implemented. Additional response thresholds are used for

response planning and to determine areas where response techniques would be most effective. The deterministic modelling is then used to assess the nature and scale of a response.

In the event of an actual response, existing deterministic modelling would be reviewed for suitability and additional modelling would be conducted using real-time data and field information to inform CIMT decisions.

The deterministic spill modelling outputs are presented at response planning thresholds for surface hydrocarbons for the WCCS. Surface spill concentrations are expressed as grams per square metre (g/m^2) (Section 2.2). The thresholds used are derived from oil spill response planning literature and industry guidance and are summarised below.

2.3.3.1 Surface hydrocarbon concentrations

Table 2-3: Surface hydrocarbon thresholds for response planning

Surface hydrocarbon threshold (g/m^2)	Description	Bonn Agreement Oil Appearance Code	Mass per area (m^3/km^2)
>10	Predicted minimum threshold for commencing operational monitoring ¹	Code 3 – Dull metallic colours	5 to 50
50	Predicted minimum floating oil threshold for containment and recovery and surface dispersant application ²	Code 4 – Discontinuous true oil colour	50 to 200
100	Predicted optimum floating oil threshold for containment and recovery and surface dispersant application	Code 5 – Continuous true oil colour	>200
Shoreline hydrocarbon threshold (g/m^2)	Description	National Plan Guidance on Oil Contaminated Foreshores	Mass per area (m^3/km^2)
100	Predicted minimum shoreline accumulation threshold for shoreline assessment operations	Stain	>100
250	Predicted minimum threshold for commencing shoreline clean-up operations	Level 3 – Thin Coating	200 to 1000

The surface thickness of oil at which dispersants are typically effective is approximately 100 g/m^2 . However, substantial variations occur in the thickness of the oil within the slick, and most fresh crude oils spread within a few hours, so overall the average thickness is 0.1 mm (or approx. 100 g/m^2) (International Tanker Owners Pollution Federation [ITOPF] 2011). Additionally, the recommended rate of application for surface dispersant is typically 1-part dispersant to 20 or 25 parts of spilled oil. These figures assume a 0.1 mm slick thickness, averaged over the thickest part of the spill, to

¹ Operational monitoring will be undertaken from the outset of a spill whether or not this threshold has been reached. Monitoring is needed throughout the response to assess the nature of the spill, track its location and inform the need for any additional monitoring and/or response techniques. It also informs when the spill has entered State Waters and control of the incident passes to statutory authorities e.g. Western Australia Department of Transport (WA DoT) or AMSA.

² At 50 g/m^2 , containment and recovery and surface dispersant application operations are not expected to be particularly effective. This threshold represents a conservative approach to planning response capability and containing the spread of surface oil.

calculate a litres/hectare application rate from vessels and aircraft. In practice this can be difficult to achieve as it is not possible to accurately assess the thickness of the floating oil.

Some degree of localised over-dosage and under-dosage is inevitable in dispersant response. An average oil layer thickness of 0.1 mm is often assumed, although the actual thickness can vary over a wide range (from less than 0.0001 mm to more than 1 mm) over short distances (International Petroleum Industry Environment Conservation Association [IPIECA] 2015).

Guidance from the Australian Maritime Safety Authority (AMSA, 2015) indicates spreading of spills of Group II or III products will rapidly decrease slick thickness over the first 24 hours of a spill resulting in the potential requirement of up to a ten (10) fold increase in capability on day 2 to achieve the same level of performance.

Further guidance from the European Maritime Safety Authority (EMSA) states spraying the 'metallic' looking area of an oil slick (Bonn Agreement Oil Appearance Code [BAOAC] 3, approx. 5 – 50 µm) with dispersant from spraying gear designed to treat an oil layer 0.1 mm (100 µm) thick, will inevitably cause dispersant over-treatment by a factor of 2 to 20 times (EMSA 2012).

Therefore, dispersant application should be concentrated on the thickest areas of an oil slick and Woodside intends on applying surface dispersants to only BAOAC 4 and 5. Spraying areas of oil designated as BAOAC Code 4 (Discontinuous true oil colour) with dispersant will, on average, deliver approximately the recommended treatment rate of dispersant.

Spraying areas of oil designated as BAOAC Code 5 with dispersant (Continuous true oil colour and more than 0.2 mm thick) will, on average, deliver approximately half the recommended treatment rate of dispersant. Repeated application of these areas of thicker oil, or increased dosage ratios, will be required to achieve the recommended treatment rate of dispersant (EMSA 2012).

Guidance from NOAA in the United States is found in the document: *Characteristics of Response Strategies: A Guide for Spill Response Planning in Marine Environments 2013* (NOAA 2013). This guide outlines advice for response planning across all common techniques, including surface dispersant spraying and containment and recovery. It states oil thickness can vary by orders of magnitude within distinct areas of a slick, thus the actual slick thickness and oil distribution of target areas are crucial for determining response method feasibility. Further to this, ITOPF also states in terms of oil spill response, sheen can be disregarded as it represents a negligible quantity of oil, cannot be recovered or otherwise dealt with to a significant degree by existing response techniques, and is likely to dissipate readily and naturally (ITOPF, 2014).

Figure 2-4 below from AMSA's Identification of Oil on Water – Aerial Observation and Identification Guide (AMSA, 2014) shows expected percent coverage of surface hydrocarbons as a proportion of total surface area. Wind-rows, heavy oil patches and tar balls, for example, must be considered, as they influence oil encounter rates, chemical dosages and ignition potential. Each method has different thickness thresholds for effective response.

From this information and other relevant sources (Allen and Dale, 1996, EMSA, 2012, Spence, 2018) the surface threshold of 50 g/m² was chosen as an average/equilibrium thickness for offshore response operations (50 g/m² is an average of 50% coverage of 0.1 mm Bonn Agreement Code 4 – discontinuous true oil colour, or 25% coverage of 0.2 mm Bonn Agreement Code 5 – continuous true oil colour which would represent small patches of thick oil or wind-rows).

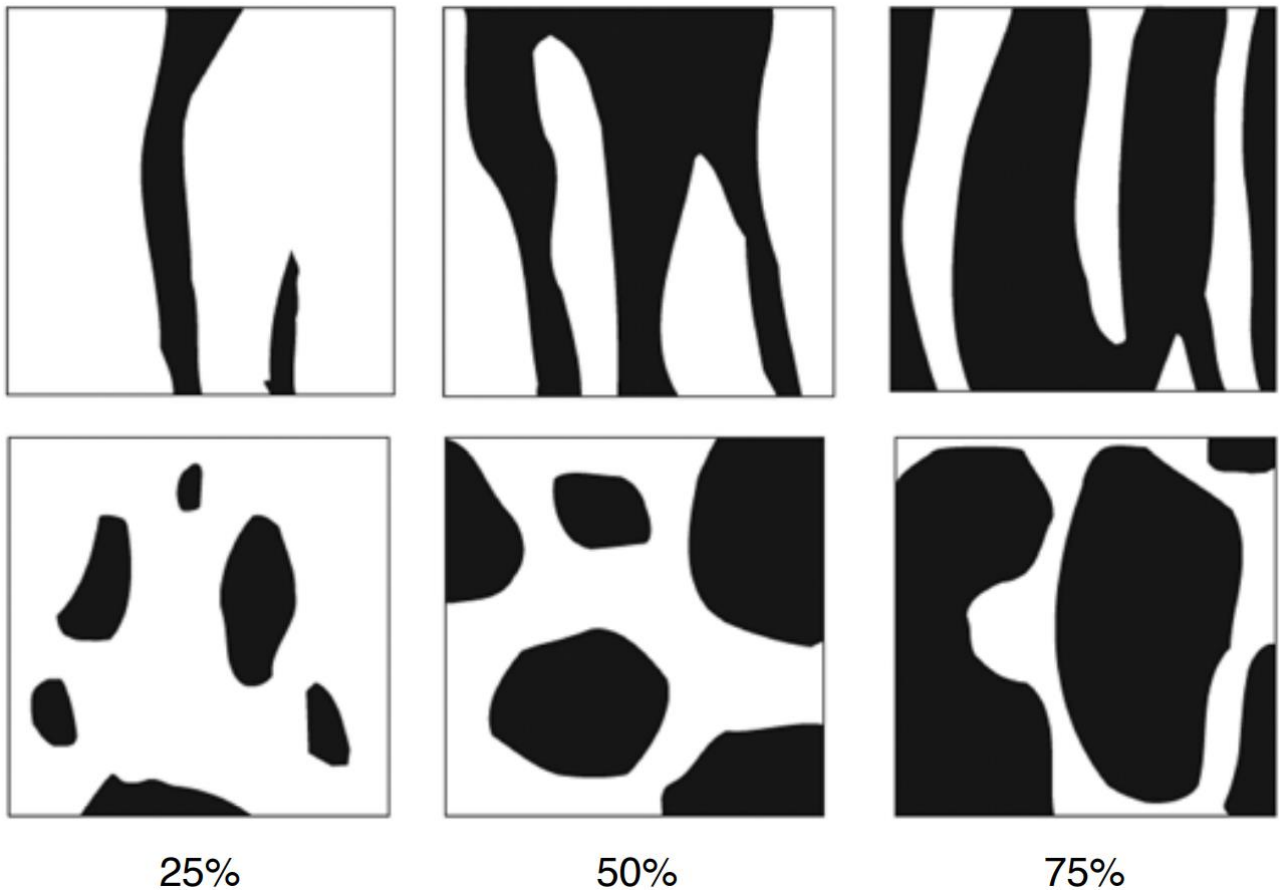


Figure 2-4: Proportion of total area coverage (AMSA, 2014)

Figure 2-5 illustrates the general relationships between on-water response techniques and slick thickness. Wind-rows, heavy oil patches and tar balls, for example, must be considered, as they influence oil encounter rates, chemical dosages and ignition potential. Each method has different thickness thresholds for effective response.

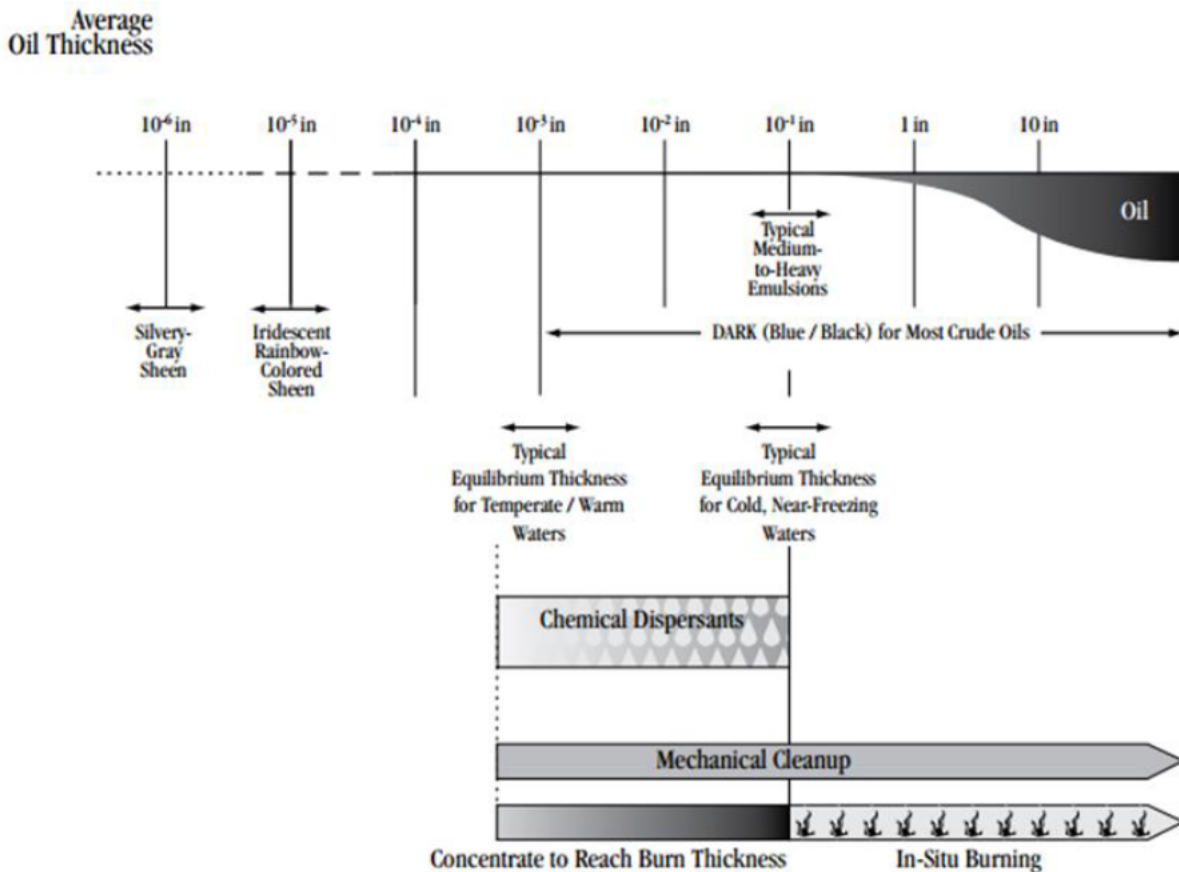


Figure 2-5: Oil thickness versus potential response options (from Allen & Dale 1996)

Wind and waves influence the feasibility of mechanical clean-up operations, dropping the effectiveness significantly because of entrainment and/or splash-over as short period waves develop beyond two to three feet (0.6 to 0.9 m) in height. Waves and wind can also be limiting factors for the safe operation of vessels and aircraft.

2.3.3.2 Surface hydrocarbon viscosity

Table 2-4: Surface hydrocarbon viscosity thresholds

Surface viscosity threshold (cSt)	Description	European Maritime Safety Authority (EMSA)	Viscosity at sea temperature (cSt)
5,000*	Predicted optimum viscosity for surface dispersant operations	Generally possible to disperse	500-5,000
15,000*	Predicted maximum viscosity for effective surface dispersant operations	Sometimes possible to disperse	5,000-15,000

*Measured at sea surface temperature

Further to the required thickness for surface dispersant application and containment and recovery to be deployed effectively as outlined above, changes to viscosity will also limit the treatment of offshore response techniques. As outlined in the EMSA Manual on the Applicability of Oil Spill Dispersants (EMSA, 2012), guidance around changes to viscosity and likely effectiveness of surface dispersant application is provided.

This includes the following statements: “It has been known for many years that it is more difficult to disperse a high viscosity oil than a low or medium viscosity oil. Laboratory testing had shown that the effectiveness of dispersants is related to oil viscosity, being highest for modern ‘Concentrate, UK Type 2/3’ dispersants at an oil viscosity of about 1,000 or 2,000 mPa (1,000 – 2,000 cSt) and then

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declining to a low level with an oil viscosity of 15,000 mPa (15,000 cSt). It was considered that some generally applicable viscosity limit, such as 2,000 or 5,000 mPa (2,000 – 5,000 cSt), could be applied to all oils.”

However, modern oil spill dispersants are generally effective up to an oil viscosity of 5,000 mPa (5,000 cSt) or more, and their performance gradually decreases with increasing viscosity; oils with a viscosity of more than 15,000 cSt are in most cases, no longer dispersible. Guidance from CEDRE (EMSA, 2012) also indicates products with a range of 500 – 5,000 cSt at sea temperature are generally possible to disperse, while 5,000 – 15,000 cSt at sea temperature above pour point are sometimes possible to disperse, with products beyond 15,000 cSt at sea temperature below pour point are generally impossible to disperse.

To support decision making and response planning, a threshold of 15,000 cSt at sea temperature was chosen as a conservative estimate of maximum viscosity for surface dispersant spraying operations.

The thresholds described above are compared with the modelling results for the WCCS (**Error! Reference source not found.**).

2.3.4 Spill modelling results

Details of the scenario and modelling inputs are included in Table 2-5.

Table 2-5: Worst case credible scenario modelling results

Scenario description	Results
	Vessel Collision
WCCS – total volume released Refer to Section 2.2.1 for detailed hydrocarbon characteristics	Hydrocarbon release from a single tank caused by a vessel collision at the Macedon Well centre. Surface – 125 m ³ over 21 days
WCCS – residual volume remaining post-weathering	5% residue (6.25 m ³)
Location	Lat: 21° 34' 17.46" S, Long: 114°11' 47.008" E
Stochastic modelling results	
Minimum time to floating hydrocarbon contact with the offshore edge(s) of any shoreline receptor polygon (at a concentration of 10 g/m²)	36 hours (to Exmouth Coastline, Ningaloo Coast WH, and Ningaloo Marine Park (State)).
Minimum time to commencement of hydrocarbon accumulation at any shoreline receptor (at a concentration of 100 g/m²)	No contact reached at this threshold.
Maximum cumulative hydrocarbon volume accumulated at any individual shoreline receptor (at a concentration of 100 g/m²).	No contact reached at this threshold (3 m ³ at Exmouth Coastline, Ningaloo Coast WH, and Ningaloo Marine Park (State) below feasible response threshold).
Maximum cumulative hydrocarbon volume accumulated across all shoreline receptors contacted by accumulated hydrocarbons (at a concentration of 100 g/m²).	No contact reached at this threshold (3 m ³ at Exmouth Coastline, Ningaloo Coast WH, and Ningaloo Marine Park (State) below feasible response threshold).
Minimum time to entrained/dissolved hydrocarbon contact with the offshore edges of any receptor polygon (at a threshold of 100 ppb)	5 hours (to Ningaloo Marine Park and Ningaloo WH waters).
The full list of response protection areas (RPAs) predicted from modelling is available in Error! Reference source not found.	

The above modelling results have been used as the basis for response planning and are included in Section 4.2

Analysis of the stochastic modelling results predicts the following:

2.3.4.1 Macedon Operations (Cwth) Vessel Collision Scenario (CS-01)

- The surface release results in insufficient concentrations for effective surface dispersant, shoreline clean-up and containment and recovery operations.
- No shoreline contact is predicted at feasible response thresholds ($>100 \text{ g/m}^2$).
- Spreading and weathering of the surface oil occurs rapidly due to the loss of light, volatile components and the spreading will reduce the effectiveness and available surface area for containment and recovery and surface dispersant operations as shown in the figures below.
- Response operations cannot be implemented if the safety of response personnel cannot be guaranteed. Safety circumstances that limit the execution of this control measure include volatile concentrations of hydrocarbons in the atmosphere, high winds (>20 knots), waves and/or sea states ($>1.5\text{m}$ waves) and high ambient temperatures.

3 IDENTIFY RESPONSE PROTECTION AREAS (RPAs)

In a response, operational monitoring programs – including trajectory modelling and vessel/aerial observations – would be used to predict RPAs that may be impacted. For the purposes of planning and appropriately scaling a response, modelling has been used to identify RPAs as outlined below in Figure 3-1.

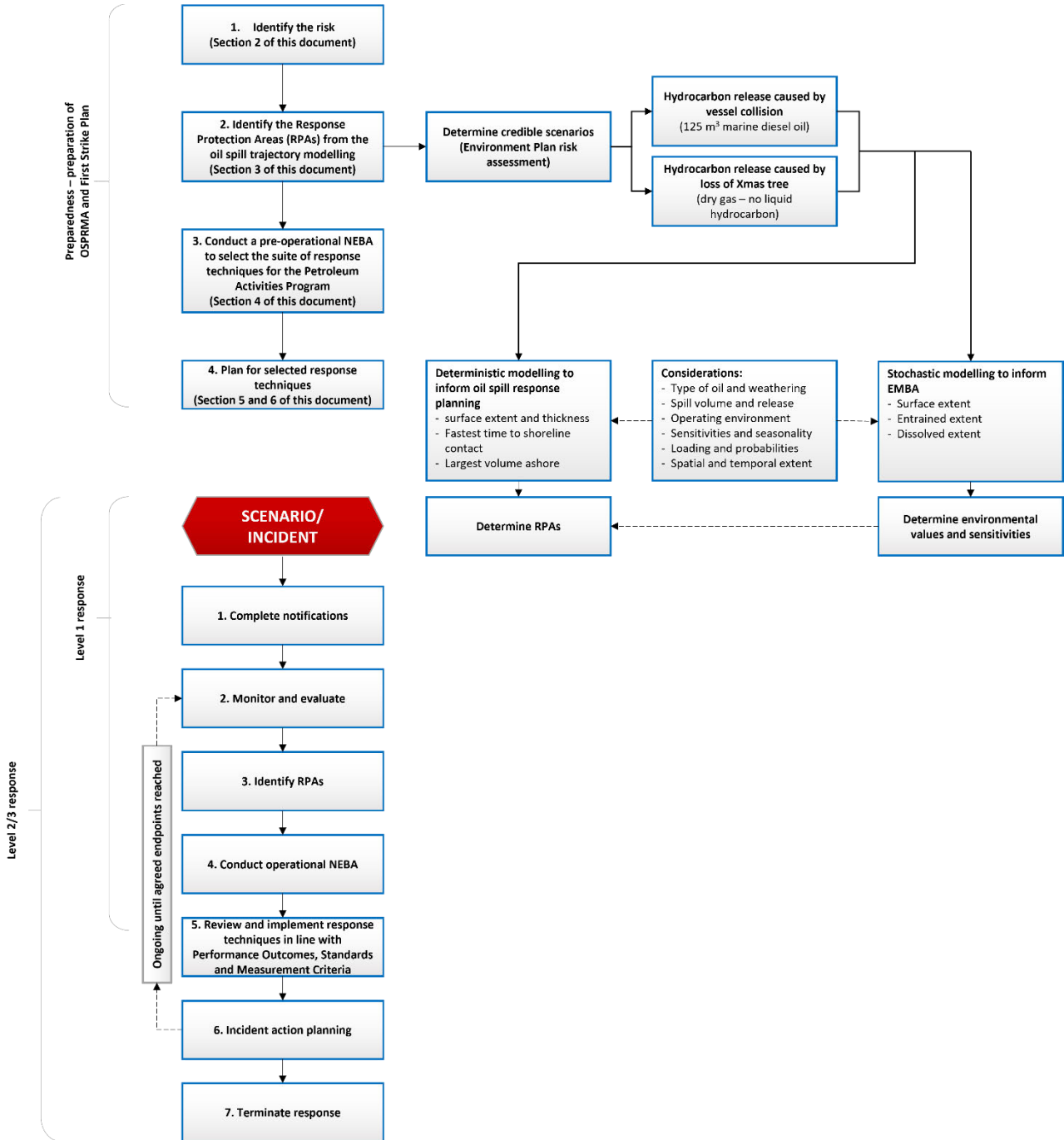


Figure 3-1: Identify Response Protection Areas (RPAs) flowchart

3.1 Identified sensitive receptor locations

Section 4 of the EP includes the list of sensitive receptor locations that have been identified by stochastic modelling as meeting the requirements outlined below:

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- receptors with the potential to incur surface, entrained or shoreline accumulation contact above environmental impact thresholds
- receptors within the EMBA which meet the following:
 - a number of priority protection criteria/categories
 - International Union of Conservation of Nature IUCN marine protected area categories
 - high conservation value habitat and species
 - important socio-economic/heritage value.

3.2 Identify Response Protection Areas (RPAs)

RPAs have been selected on the basis of their environmental ecological, social, economic, cultural and heritage values and sensitivities and the ability to conduct a response based on the minimum response thresholds (detailed in Section 2.3.3.1). It is important to note that the stochastic modelling results are the combined results of the individual worst-case runs and do not indicate a single worst case credible scenario (where the timings and volumes are all expected from one release).

From the identified sensitive receptors described in Section 4 of the EP, only those which a shoreline response could feasibly be conducted (accumulation > 100 g/m² for shoreline assessment and/or contact with surface slicks >50 g/m² for feasible offshore response) are selected for response planning purposes.

No RPAs are therefore defined for this activity. Operational monitoring will, however, be undertaken from the outset of a spill to assess the nature of the spill, track its location and inform the need for any additional monitoring and/or response techniques. It will also inform if or when the spill enters State Waters and/or control of the incident passes to statutory authorities e.g. WA DoT or AMSA. If operational monitoring does identify RPAs at risk of impact during a real spill event, TRPs for a shoreline response will be drafted in advance for any RPAs with a contact time of <14 days.

Additional sensitive receptors are presented the existing environment description (Section 4 of the EP) and impact assessment section (Section 6.7 of the EP) for each respective spill scenario. The pre-operational NEBA (Section 0) considers the results from the stochastic modelling to ensure all feasible response techniques are considered in the planning phase, therefore additional receptors are also included in the pre-operational NEBA.

The RPAs identified in **Error! Reference source not found.** are used to plan for the nature and scale of a shoreline response.

4 NET ENVIRONMENTAL BENEFIT ANALYSIS (NEBA)

A Net Environmental Benefit Analysis (NEBA) is a structured process to consider which response techniques are likely to provide the greatest net environmental benefit.

The NEBA process typically involves four key steps outlined in Figure 4-1: evaluate data, predict outcomes, balance trade-offs, and select response options. These steps are followed in the planning/preparedness process and would also be followed in a response.

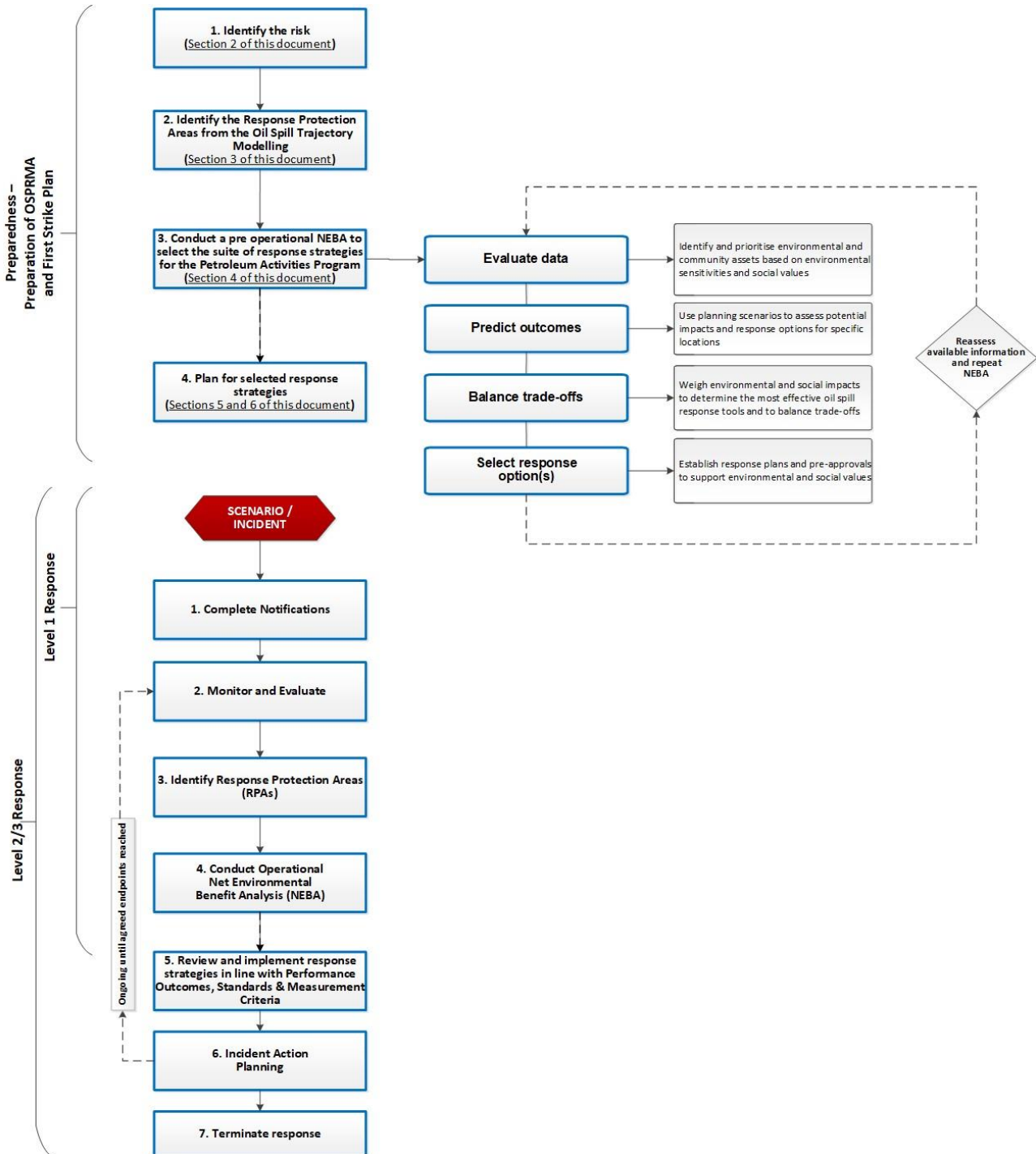


Figure 4-1: Net Environmental Benefit Analysis (NEBA) flowchart

4.1 Pre-operational / Strategic NEBA

The pre-operational NEBA identifies positive and negative impacts to sensitive receptors from implementing the response techniques. Feasibility is considered by assessing the receptors potentially impacted above response thresholds (Section 2.3.3) and the surface concentrations (Section 2.3.3.1) from the modelling.

Completing a pre-operational NEBA is a key response planning control that reduces the environmental risks and impacts of implementing the selected response techniques. Comprehensive details of the pre-operational NEBA for this PAP are contained in **ANNEX A: Net Environmental Benefit Analysis detailed outcomes**.

4.2 Stage 1: Evaluate data

Woodside identifies and prioritises environmental and community assets based on environmental sensitivities and social values, informed through the use of trajectory modelling. Interpretation of stochastic oil spill modelling determines the EMBA for the release, which defines the spatial area that may be potentially impacted by the PAP activities.

4.2.1 Define the scenario(s)

Woodside uses scenarios identified from the risk assessment in the EP to assess potential impacts and response options for specific locations. The WCCS is then selected for deterministic modelling and is used for this pre-operational NEBA. Outlier locations with potential environmental impacts, selected from the stochastic modelling may also be included for assessment. Response thresholds and deterministic modelling are then used to assess the feasibility/effectiveness and scale of the response. Modelling results are available in Error! Reference source not found. and Error! Reference source not found..

4.3 Stage 2: Predict Outcomes

Woodside uses planning scenarios to assess potential impacts and response options for specific locations. Locations with potential environmental impacts, selected from the stochastic modelling are included for assessment. Response thresholds and deterministic modelling are then used to assess the feasibility/ effectiveness of a response.

4.4 Stage 3: Balance trade-offs

Woodside considers environmental impacts and response effectiveness/ feasibility to determine the most effective oil spill response tools and balance trade-offs, using an automated NEBA tool. The tool considers potential benefits and impacts associated with a response at sensitive receptors and then considers the effectiveness/ feasibility of the response to select the response techniques carried forward to the ALARP assessment. The NEBA can be found in **ANNEX A: Net Environmental Benefit Analysis detailed outcomes**.

4.5 Stage 4: Select Best Response Options

To select the response technique, all the other stages in the NEBA process are considered and used to establish response plans and any pre-approvals to support protection of identified environmental and social values.

The response techniques implemented may vary according to a particular spill. The hydrocarbon type released and the sensitivities of the receptors (both ecological and socio-economic) may influence the response. The pre-operational NEBA broadly evaluates each response technique and supports decisions on whether they are feasible and of net environmental benefit. Response techniques that are not feasible or beneficial are rejected at this stage and not progressed to planning.

Further risks and impacts from implementing these selected response options are outlined in Section 7.

4.5.1 Determining potential response options

The available response techniques based on current technology can be summarised under the following headings:

- Operational monitoring
- Source control
 - Remotely operated vehicle (ROV) intervention
 - debris clearance and/or removal
 - capping stack
 - containment dome
 - relief well drilling
- Source control via vessel SOPEP
- Subsea dispersant injection
- Surface dispersant application:
 - aerial dispersant application
 - vessel dispersant application
- Mechanical dispersion
- In-situ burning
- Containment and recovery
- Shoreline protection and deflection:
 - protection
 - deflection
- Shoreline clean-up:
 - Phase 1 – mechanical clean-up
 - Phase 2 – manual clean-up
 - Phase 3 – final polishing
- In-situ burning
- Oiled wildlife response (including hazing)
- Waste management
- Post spill/ scientific monitoring

Error! Reference source not found. Table 4-1 and Table 4-2 includes a scenario-specific assessments of feasible response options and justification for the exclusion of inappropriate options. These options are evaluated against the scenario parameters including oil type, volume, characteristics, prevailing weather conditions, logistical support, and resource availability to determine deployment feasibility.

A shortlist of the feasible response options is then carried forward for the ALARP assessment. This assessment will typically result in a range of available options, that are deployed at different areas (at-source, offshore, nearshore and onshore) and different times during the response. The NEBA process assists in prioritising which options to use where and when, and timings throughout the response.

Table 4-1: Response technique evaluation – vessel collision (CS-01)

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
Hydrocarbon: Marine Diesel (MDO)				
Operational Monitoring	<p>Will be effective in tracking the location of the spill, predicting potential impacts and triggering further monitoring and response techniques as required. Monitoring techniques include:</p> <ul style="list-style-type: none"> OM01 Predictive modelling of hydrocarbons – used throughout spill. 'Ground-truthed' using the outputs of all other monitoring techniques. OM02 Surveillance and reconnaissance to detect hydrocarbons and resources at risk – from outset of spill. OM03 Monitoring of hydrocarbon presence, properties, behaviour and weathering in water – from outset of spill. OM04 Pre-emptive assessment of sensitive receptors at risk – triggered once OM01, OM02 and OM03 inform likely RPAs at risk. OM05 Shoreline assessment – once OM02, OM03 and OM04 inform if any RPAs have been impacted. 	<p>Monitoring of a marine diesel spill is a feasible response technique and outputs will be used to guide decision making on the use of other monitoring/response techniques and providing information to regulatory agencies including AMSA and WA DoT. Practicable techniques that could be used for this scenario include predictive modelling (OM01), surveillance and reconnaissance OM02) and monitoring of hydrocarbon presence in water (OM03).</p> <p>Modelling does not predict impact of any shoreline receptors at moderate thresholds, only low thresholds, however, pre-emptive assessment of sensitive receptors at risk (OM04) and monitoring of contaminated resources (OM05) would be utilised if any sensitive shoreline receptors are deemed to be at risk of impact.</p>	Yes	<p>Monitoring the spill will be necessary to:</p> <ul style="list-style-type: none"> validate trajectory and weathering models determine the behaviour of the oil in water determine the location and state of the slick provide forecasts of spill trajectory determine appropriate response techniques determine effectiveness of response techniques confirm impact pathways to receptors provide regulatory agencies with required information.
Source control via vessel SOPEP	Controlling the spill of diesel at source would be the most effective way to limit the quantity of hydrocarbon entering the marine environment.	A spill of diesel from a vessel collision will be instantaneous and source control will be limited to what the vessel or facility can safely achieve whilst responding to the incident.	Yes	Ability to stop the spill at source will be dependent upon the specific spill circumstances and whether or not it is safe for response personnel to access/isolate the source of the spill.
Surface dispersant application	<p>Application of surface dispersant would likely reduce the volumes of hydrocarbons contacting sensitive surface receptors.</p> <p>Dispersant can also enhance biodegradation and may reduce VOCs in some circumstances therefore reducing potential health and safety risk to responders.</p> <p>Dispersant can increase dispersed/entrained hydrocarbons which can potentially have higher toxicity to biota in shallow water than naturally dispersed hydrocarbons.</p> <p>Subsurface oil plume likely to increase in size resulting in greater spatial extent of entrained oil.</p> <p>Entrained oil could potentially impact on sensitive shallow-water receptors e.g. corals, which otherwise may have been unaffected.</p>	<p>Modelling does not predict that floating oil will reach the minimum feasible threshold at which to commence surface dispersant application (>50 g/m²). This technique is also not suitable for MDO spills as this hydrocarbon is prone to rapid spreading and evaporation and are not considered effective when applied on thin surface films such as marine diesel as the dispersant droplets tend to pass through the surface films without binding to the hydrocarbon resulting in the unnecessary addition of chemicals to the marine environment.</p> <p>The volatile nature of MDO is also likely to lead to unsafe conditions in the vicinity of fresh hydrocarbon thus this response technique is deemed inappropriate.</p>	No	The application of dispersant to marine diesel is unnecessary as the diesel will rapidly evaporate and would thus unnecessarily introduce additional chemical substances to the marine environment. The additional entrainment would also increase exposure of subsea species and habitats to hydrocarbons.
Mechanical dispersion	Mechanical dispersion involves the use of a vessel's prop wash and/or fire hose to target surface hydrocarbons to achieve dispersion into the water column. However, this technique is of limited benefit in an open ocean environment where wind and wave action are likely to deliver similar advantages.	<p>Although the technique is feasible, highly volatile hydrocarbons are likely to weather, spread and evaporate quickly.</p> <p>The volatile nature of the oil likely to lead to unsafe conditions in the vicinity of fresh hydrocarbon.</p> <p>Additionally, any vessel used for mechanical dispersion activities would be contaminated by the hydrocarbon and could potentially cause secondary contamination of unimpacted areas when exiting the spill area.</p> <p>The decontamination of a vessel used for mechanical dispersion activities would result in additional quantities of oily waste requiring appropriate handling and treatment.</p>	No	Given the limited benefit of mechanical dispersion over natural wind and wave action, secondary contamination and waste issues, and the associated safety risk of implementing the response for this activity, this strategy is deemed unsuitable.

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
In-situ burning	In-situ burning is only effective where minimum slick thickness can be achieved.	Use of in-situ burning as a response technique for marine diesel is unfeasible as the minimum slick thickness cannot be attained due to rapid spreading. In addition, there is a limited window of opportunity in which this technique can be applied (prior to evaporation of the volatiles) which is unlikely to be achieved. Furthermore, entering a volatile environment to undertake this technique would be unsafe for response personnel and its used would unnecessarily cause an increase the release of atmospheric pollutants.	No	Diesel characteristics are not appropriate for the use of in-situ burning and would unnecessarily cause an increase the release of atmospheric pollutants.
Containment and recovery	Containment and recovery has an effective recovery rate of 5-10% when a hydrocarbon encounter rate of 25-50% is achieved at BAOAC 4 and 5 with a 50-100% coverage of 100 g/m ² to 200 g/m ² .	Modelling does not predict that floating oil will reach the minimum feasible threshold at which to commence containment and recovery (50 g/m ²). This technique is also not suitable for MDO spills as it is prone to rapid spreading and evaporation and is deemed unsuitable for effective containment and recovery operations. The volatile nature of marine diesel is also likely to lead to unsafe conditions in the vicinity of the hydrocarbon thus this response technique is deemed inappropriate.	No	Containment and recovery would be an inappropriate response technique for a spill of marine diesel. Corraling a volatile hydrocarbon such as MDO is deemed unsafe for response personnel thus this response strategy is not considered feasible. In addition to the safety issues, most of the spilled diesel would have been subject to rapid evaporation prior to the commencement of containment and recovery operations.
Shoreline protection and deflection	Shoreline protection and deflection can be effective at preventing contamination of at-risk areas.	Spill modelling indicates that floating oil will only accumulate at receptors at low thresholds, therefore the deployment of shoreline protection strategies may not be a feasible response strategy. A marine diesel spill would be prone to rapid spreading and evaporation and modelling predicts that no shoreline receptors will be contacted at feasible response threshold (>100 g/m ²). Furthermore, the volatile nature of marine diesel is also likely to lead to unsafe conditions in the vicinity of the hydrocarbon. Operational monitoring will be deployed from the outset of a spill to track the spill location and fate in real-time and will provide information on the feasibility of implementing shoreline protection and deflection strategies.	Potentially	Spill modelling indicates that floating oil will only accumulate at receptors at low thresholds, therefore the deployment of shoreline protection strategies may not be a feasible response strategy. In addition, safety issues and the rapid spreading and evaporation of the diesel may result in this response not being unsuitable. The potential application of this response strategy will be dependent on the operational monitoring and operational NEBA conducted at the time of the spill incident.
Shoreline clean-up	Shoreline clean-up is an effective means of hydrocarbon removal from contaminated shorelines where coverage is at an optimum level of 250 g/m ² .	A marine diesel spill would be prone to rapid spreading and evaporation and the modelling predicts that no shoreline receptors will be contacted at feasible response threshold (>100 g/m ²). Furthermore, the volatile nature of marine diesel is also likely to lead to unsafe conditions in the vicinity of the hydrocarbon. Operational monitoring will, however, be deployed from the outset of a spill to track the spill location and fate in real-time and will provide information on the feasibility of implementing shoreline clean-up strategies.	No	In addition to safety issues, the modelling undertaken predicts that no shoreline receptors would be contacted by floating oil concentrations at a recoverable threshold and a spill of marine diesel is unlikely to accumulate at concentrations appropriate for shoreline clean-up techniques.
Oiled wildlife response	Oiled wildlife response is an effective response technique for reducing the overall impact of a spill on wildlife. This is mostly achieved through hazing to prevent additional wildlife from being contaminated and through rehabilitation of those already subject to contamination.	Due to the likely volatile atmospheric conditions surrounding a diesel spill, response options may be limited to hazing to ensure the safety of response personnel. Monitor and evaluate will, however, be deployed from the outset of a spill to track the spill location and fate in real-time. Thus, in the event that wildlife are at risk of contamination, oiled wildlife response will be undertaken in accordance with the Wildlife Response Operational Plan as and where required. In addition, any rehabilitation could only be undertaken by trained specialists.	Yes	The modelling undertaken predicts limited impact to areas at low thresholds only thus it is unlikely that this technique will be required. However, in the event that wildlife are at risk of contamination, oiled wildlife response will be undertaken as and where required.

Table 4-2: Response technique evaluation – dry gas release from loss of containment (CS-02)

Response technique	Effectiveness	Feasibility	Decision	Rationale for the decision
Hydrocarbon: Dry Gas				
Monitor and evaluate	For a dry gas release, established (liquid hydrocarbon) spill monitoring techniques are not applicable. Monitoring the gas plume via the ROV sonar tool may be effective, in conjunction with other well information, in determining appropriate source control techniques. If the plume breaches the surface, gas monitoring at the surface will be effective in ensuring atmospheric volatiles remain below safe operating levels and may be used to direct simultaneous operations (SIMOPS).	Monitoring the gas plume may be feasible where safe access via the ROV can be achieved and line of (sonar) sight is achievable to observe the gas plume. Outputs may be used to guide decision making on the use of source control techniques including options for safe and effective capping stack deployment, and relief well execution. Gas monitoring at the surface is a feasible practice and may be undertaken via the support vessels' gas monitoring equipment.	Yes	If feasible and safe, monitoring the gas plume via ROV and gas monitoring at the surface may: <ul style="list-style-type: none"> determine the behaviour of the plume monitor the surface plume (if water's surface is breached) determine appropriate source control response techniques inform on effectiveness of response techniques ensure safety of response personnel guide SIMOPS
Source control via blowout preventer (BOP) intervention	Not applicable – production wells do not have blowout preventers in place and thus intervention and/or hotstab are not feasible response techniques.	Not applicable – production wells do not have blowout preventers in place and thus intervention and/or hotstab are not feasible response techniques.	N/A	Not applicable – production wells do not have blowout preventers in place and thus intervention and/or hotstab are not feasible response techniques.
Source control via debris clearance and capping stack	Controlling a loss of well containment at source via capping stack would be an effective way to limit the quantity of hydrocarbon entering the marine environment. If the ROV intervention on the BOP is unsuccessful, the deployment of a capping stack will be the secondary feasible option to stop the flow from the well.	Woodside maintains several frame agreements with various vessel service providers and maintains the ability to call off services with a capping stack and debris clearance agreement. The location of suitable vessels for capping stack deployment are monitored monthly. The supply arrangements and reliability to achieve the required mobilisation time will be revalidated prior to spud. Consideration to mobilise the capping stack from the supplier on a suitable vessel but then hand over to another vessel to conduct the capping activity will also be made to meet response time frames.	Yes	Conventional/vertical capping stack deployment with a heavy lift vessel is feasible once metocean conditions (wind, waves etc) and plume diameter are appropriate for safe deployment.
Source control via relief well drilling	A subsea release of methane will be stopped approximately 69 days after the release. Relief well drilling will be a feasible option to stop the flow from the well.	Relief well drilling is a widely accepted and utilised technique.	Yes	Relief well drilling is a proven technique employed to control a loss of well containment event should the other containment measures be unsuccessful.
Subsea Dispersant Injection	Not applicable for a dry gas LOWC.	Not applicable for a dry gas LOWC.	No	Not applicable for a dry gas LOWC.
Surface dispersant application	Not applicable for a dry gas LOWC.	Not applicable for a dry gas LOWC.	No	Not applicable for a dry gas LOWC.
Mechanical dispersion	Not applicable for a dry gas LOWC.	Not applicable for a dry gas LOWC.	No	Not applicable for a dry gas LOWC.
In-situ burning	Not applicable for a dry gas LOWC.	Not applicable for a dry gas LOWC.	No	Not applicable for a dry gas LOWC.
Containment and recovery	Not applicable for a dry gas LOWC.	Not applicable for a dry gas LOWC.	No	Not applicable for a dry gas LOWC.
Shoreline protection and deflection	Not applicable for a dry gas LOWC.	Not applicable for a dry gas LOWC.	No	Not applicable for a dry gas LOWC.
Shoreline clean-up	Not applicable for a dry gas LOWC.	Not applicable for a dry gas LOWC.	No	Not applicable for a dry gas LOWC.
Oiled wildlife response	Not applicable for a dry gas LOWC.	Not applicable for a dry gas LOWC.	No	Not applicable for a dry gas LOWC.

5 HYDROCARBON SPILL ALARP PROCESS

Woodside's hydrocarbon spill ALARP process is aligned with guidance provided by NOPSEMA in *ALARP Guidance Note N-04300-GN0166* (2022) and *Oil Spill Risk Management Guidance Note N-04750-GN1488* (2021) and is set out in the 'Woodside Oil Spill Preparedness and Response Mitigation Assessment (OSPRMA) Guidelines'.

From the identified response planning need and pre-operational NEBA/SIMA, Woodside conducts a structured, semi-quantitative hydrocarbon spill process which has the following steps:

1. considers the Response Planning Need identified in terms of surface area (km²) and available surface hydrocarbon volumes (m³) against existing Woodside capability
2. considers alternative, additional, and improved options for each response technique/control measure by providing an initial and, if required, detailed evaluation of:
 - predicted cost associated with adopting the control measure
 - predicted change/environmental benefit
 - predicted effectiveness/feasibility of the control measure.
3. evaluates the risks and impacts of implementing the proposed response techniques, and any further control measures with associated environmental performance to manage these additional risks and impacts.

Woodside considers the risks and impacts from a hydrocarbon spill to have been reduced to ALARP when:

1. a structured process for identifying and considering alternative, additional, and improved options has been completed for each selected response technique
2. the analysis of alternate, additional, and improved control measures meets one of the following criteria:
 - all identified, reasonably practicable control measures have been adopted; or
 - no identified reasonably practicable additional, alternative and/or improved control measures would provide further overall increased proportionate environmental benefit; or
 - no reasonably practical additional, alternative, and/or improved control measures have been identified.
3. where an alternative, additional and/or improved control measure is adopted, a measurable level of environmental performance has been assigned
4. higher order impacts/ risks have received more comprehensive alternative, additional, and improved control measure evaluations and do not just compare the cost of the adopted control measures to the costs of an extreme or clearly unreasonable control measure
5. cumulative effects have been analysed when considered in combination across the whole activity.

The response technique selection is based on the risk assessment conducted in the EP. The risk assessment identifies the type of oil, volume of release, duration of release, predicted fate, weathering and the EMBA (along with other requirements such as time to impact and predicted volumes ashore). Modelling is then used to inform the NEBA and the prioritisation of suitable

response options. The scale of the response techniques selected in the pre-operational NEBA is informed through the assessment of results from deterministic modelling.

For the purpose of the ALARP assessment, the following terms and definitions have been used:

- Response techniques are considered the control measures that reduce consequences from hydrocarbon spill events. The terms 'response technique' and 'control measure' are used interchangeably.
- Cost is defined as the time, effort and/or trouble taken in financial, safety, design/storage/installation, capital/lease, and/or operations/maintenance terms to adopt a control measure.
- Where the predicted change to environmental impact is compared against standard environmental values and sensitivities impacts using positive or negative criteria from the NEBA Impact Ranking Classification Guidance in Annex A.

5.1 Operational Monitoring

Operational Monitoring includes the gathering and evaluation of data to inform the oil spill response planning and operations. It includes fate and trajectory modelling, spill tracking, weather updates and field observations. This response option is deployed in some capacity for every event.

The table below provides the operations monitoring plans that support the successful execution of this response technique.

Table 5-1: Description of supporting operational monitoring plans

ID	Title
OM01	Predictive modelling of hydrocarbons to assess resources at risk
OM02	Surveillance and reconnaissance to detect hydrocarbons and resources at risk
OM03	Monitoring of hydrocarbon presence, properties, behaviour and weathering in water
OM04	Pre-emptive assessment of sensitive receptors at risk
OM05	Shoreline assessment

Woodside maintains an *Operational Monitoring Operational Plan*. If shoreline contact is predicted, Response Protection Areas (RPAs) will be identified and assessed before contact. If shorelines are contacted, a shoreline assessment survey will be completed to guide effective shoreline clean-up operations. This plan includes the process for the CIMT to mobilise resources depending on the nature and scale of the spill.

The proximity of Exmouth to the spill event location means that multiple logistical options are available to monitor the spill in relatively short timeframes. The primary mobilisation base for initial monitoring activities would be Onslow. However, in the unlikely event of an extended spill with potential to impact receptors further afield, monitoring activities may also be mobilised from Onslow and Dampier/ Karratha.

5.1.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which a response need can be based:

- Floating surface oil in sufficient concentrations for effective operational monitoring is expected to be limited with surface concentrations of 10 g/m² reaching up to five receptors from the well location, with the shortest time to contact being 1.5 days (36 hours). Floating surface oil at concentrations of 50 g/m² were not predicted for this scenario.
- The shortest timeframe that shoreline contact from floating oil is predicted is 1.5 days (36 hours).
- The time to contact for oil at concentrations of entrained hydrocarbons greater than 100 ppb at shoreline receptors is 5 hours at both Ningaloo Marine Park and Ningaloo Coast World Heritage Marine Park.
- Arrangements for support organisations who provide specialist services or resources should be tested regularly.
- Plans, procedures and support documents need to be in place for Operational and Support functions. These should be reviewed and updated regularly.

5.1.2 Environmental performance based on need

Table 5-2: Environmental Performance – Operational Monitoring

Environmental Performance Outcome		To gather information from multiple sources to establish an accurate common operating picture as soon as possible and predict the fate and behaviour of the spill to validate planning assumptions and adjust response plans as appropriate to the scenario.		
Control measure		Performance Standard		Measurement Criteria (Section 5.9)
1	Oil spill trajectory modelling	1.1	Initial modelling available within 6 hours using the Rapid Assessment Tool	1, 3B, 3C, 4
		1.2	Detailed modelling available within 4 hours of APASA receiving information from Woodside	
		1.3	Detailed modelling service available for the duration of the incident upon contract activation	
2	Tracking buoy	2.1	Tracking buoy located on facility/ lead vessel and ready for deployment 24/7	1, 3A, 3C, 4
		2.2	Deploy tracking buoy from facility/ lead vessel within 2 hours as per the Oil Pollution First Strike Plan.	1, 3A, 3B, 4
		2.3	Contract in place with service provider to allow data from tracking buoy to be received 24/7 and processed.	1, 3B, 3C, 4
		2.4	Data received to be uploaded into Woodside COP daily to improve the accuracy of other Operational Monitoring techniques.	1, 3B, 4
3	Satellite imagery	3.1	Contract in place with 3 rd party provider to enable access and analysis of satellite imagery. Imagery source/type requested on activation of service.	1, 3C, 4
		3.2	3 rd party provider will confirm availability of an initial acquisition within 2 hours.	1, 3B, 3C, 4
		3.3	First image received with 24 hours of Woodside confirming to 3 rd party provider its acceptance of the proposed acquisition plan.	1
		3.4	3 rd party provider to submit report to Woodside per image. Report is to include a polygon of any possible or identified slick(s) with metadata.	1
		3.5	Data received to be uploaded into Woodside COP daily to improve accuracy of other Operational Monitoring techniques.	1, 3B, 4
		3.6	Satellite Imagery services available and employed during response	1, 3C, 4
4	Aerial surveillance	4.1	1 trained aerial observers available to be deployed by day 1 from resource pool.	1, 2, 3B, 3C, 4
		4.2	1 aircraft available for two sorties per day, available for the duration of the response from day 1	1, 3C, 4
		4.3	Observer to compile report during flight as per First Strike Plan. Observers report available to the CIMT within 2 hours of landing after each sortie.	1, 2, 3B, 4

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Environmental Performance Outcome		To gather information from multiple sources to establish an accurate common operating picture as soon as possible and predict the fate and behaviour of the spill to validate planning assumptions and adjust response plans as appropriate to the scenario.		
Control measure		Performance Standard	Measurement Criteria (Section 5.9)	
		4.4	Unmanned Aerial Vehicles/Systems (UAV/UASs) to support SCAT, containment and recovery and surface dispersal and pre-emptive assessments as contingency if required.	1, 2
5	Hydrocarbon detections in water	5.1	Activate 3 rd party service provider as per first strike plan. Deploy resources within 2 days: <ul style="list-style-type: none"> • 2 specialists in water quality monitoring • 2 monitoring systems and ancillaries • 1 vessel for deploying the monitoring systems with a dedicated winch, A-frame or Hiab and ancillaries to deploy the equipment. 	1, 2, 3C, 3D, 4
		5.3	Water monitoring services available and employed during response	1, 3C, 4
		5.4	Preliminary results of water sample as per contractor's implementation plan within 7 days of receipt of samples at the accredited lab	
		5.5	Daily fluorometry reports as per service provider's implementation plan will be provided to CIMT to validate modelling and monitor presence/ absence of entrained hydrocarbons.	
		5.6	Use of Autonomous Underwater Vehicles (AUVs) for hydrocarbon presence and detection may be used as a contingency if the operational SIMA confirms conventional methods are unsafe or not possible.	1, 2, 3C, 4
6	Pre-emptive assessment of sensitive receptors	6.1	5 days prior to any predicted impact/ Within 24 hours, in agreement with WA DoT (for Level 2/3 incidents), deployment of 2 specialists from resource pool in establishing the status of sensitive receptors.	1, 2, 3B, 3C, 4
		6.2	Daily reports provided to CIMT on the status of the receptors to prioritise Response Protection Areas (RPAs) and maximise effective utilisation of resources.	1, 3B, 4
7	Shoreline assessment	7.1	5 days prior to any predicted impact/ Within 24 hours, in agreement with WA DoT (for Level 2/3 incidents), deployment of 2 specialist(s) in SCAT from resource pool for each of the Response Protection Areas (RPAs) with predicted impacts	1, 2, 3B, 3C, 4
		7.2	SCAT reports provided to CIMT daily detailing the assessed areas to maximise effective utilisation of resources	1, 3B, 4
8	Management of Environmental Impact of the	8.1	If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic	1

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Environmental Performance Outcome		To gather information from multiple sources to establish an accurate common operating picture as soon as possible and predict the fate and behaviour of the spill to validate planning assumptions and adjust response plans as appropriate to the scenario.	
Control measure		Performance Standard	Measurement Criteria (Section 5.9)
response risks		environments with a preference for areas of sandy seabed where they can be identified	
	8.2	Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines	
	8.3	Shoreline access routes with the least environmental impact identified will be selected by a specialist in SCAT operations	

The control measures and capability of Woodside and its third-party service providers are shown to support Operational Monitoring activities up to and including the identified WCCS. This is demonstrated by the following:

- Woodside has a documented, structured and tested capability for Operational Monitoring operations including internal trajectory modelling capabilities, tracking buoys located offshore and contracted aerial observation platforms with access to trained observers.
- Woodside and its third-party service providers anticipate there is sufficient capability for the duration of the response.
- Woodside has assessed the existing capability available and considered potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.1.

5.2 Source control and well intervention

A loss of well containment is considered a credible scenario during drilling operations. Woodside anticipates this scenario would result in an uncontrolled flow of dry gas from the well as outlined in the EP. In the event of a loss of well containment, the primary response would be source control and well intervention.

The Woodside Source Control Response Procedure includes the process for the CIMT to mobilise resources for BOP intervention, Subsea First Response Toolkit (SFRT) support, and capping support. This plan has pre-identified vessel specifications and contracts required for SFRT debris clearance work and Woodside monitors the availability and location of these vessels.

Woodside is a signatory to a MoU between Australian offshore operators to provide mutual aid to facilitate and expedite mobilising a MODU and drilling a relief well, if a loss of well containment incident were to occur. The MoU commits the signatories to share rigs, equipment, personnel and services to assist another operator in need. Moored MODUs are suitable for the Macedon wells.

Source control operations cannot be implemented if the safety of response personnel cannot be guaranteed. Circumstances that limit the safe execution of this control measure include lower explosive limit (LEL) concentrations, volatile concentrations of hydrocarbons in the atmosphere, weather window, waves and/or sea states (>1.5m waves) and high ambient temperatures. As the dry gas plume for the PAP is not predicted to breach the water's surface, Woodside anticipates LEL concentrations and volatile concentrations of hydrocarbons in the atmosphere are unlikely to pose a safety issue for response personnel. Gas monitoring will, however, be undertaken in line with standard protocol.

5.2.1 Response need based on predicted parameters

The following statements identify the key parameters upon which a response need can be based:

- Prior to any source control activities, Woodside will implement protocols intended to ensure that the site is safe including subsea ROV surveys and surface air monitoring.
- Hydrocarbons will flow from the well until one of the following interventions can be made:
 - closure of the tubing retrievable safety valve (TRSV)
 - intervention with a capping stack
 - a relief well is drilled and first attempt at well kill within 69 days.
- Arrangements for support organisations who provide specialist services or resources should be tested regularly.
- Plans, procedures and support documents need to be in place for Operational and Support functions. These should be reviewed and updated regularly.
- The duration of the spill may be up to 69 days.

In addition, a number of assumptions are required to estimate the response need for source control. These assumptions have been described in the table below.

Table 5-3: Response Planning Assumptions - Source Control

Response planning assumptions	
Capping stack feasibility	For the Macedon wells, conventional/ vertical capping stack deployment may be feasible. This would be considered, at the discretion of the vessel master on the day, giving due regard to the safety of the vessel and crew and factors that may influence a safe deployment such as plume radius and acceptable environmental conditions e.g. wind speed, wave height, current and plume radius.
Safety considerations	<p>Source control operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site, in accordance with the Woodside Management System (WMS). Personnel safety issues may include:</p> <ul style="list-style-type: none"> • hydrocarbon gas and/or liquid exposure • high winds, waves and/or sea states • high ambient temperatures.
Feasibility considerations	<p>Woodside's primary source control options would be ROV intervention and capping stack deployment. Relief well drilling operations will begin concurrently to provide an option to permanently abandon the well after the well flow is stopped.</p> <p>The following approaches outline Woodside's hierarchy approach for selecting suitable MODU's for relief well operations;</p> <ul style="list-style-type: none"> • Primary – review internal drilling programs and MODU availability to source appropriate rig(s) operating within Australia with an approved Safety Case; • Alternate – source and contract MODUs through Australian Energy Producers' (AEP) Memorandum of Understanding (MoU) that is operating within Australia with an approved Safety Case; • Contingency – source and contract a MODU outside Australia with an approved Australian Safety Case

5.2.2 Environmental performance based on need

Table 5-4: Environmental Performance - Source Control

Environmental Performance Outcome		To stop the flow of hydrocarbons into the marine environment		
Control measure		Performance Standard		Measurement Criteria (Section 5.9)
9	Subsea First Response Toolkit (SFRT)	9.1	Oceanering support staff available all year round, via contract, to assist with the mobilisation, deployment, and operation of the SFRT equipment.	1, 3B, 3C
		9.2	Intervention vessel with minimum requirement of a working class ROV and operator.	1, 3C
		9.3	Mobilised to site for deployment within 11 days.	1, 3B, 3C
		9.4	Open communication line to be maintained between CIMT and infield operations to ensure awareness of progress against plan(s).	1, 3A, 3B
10	Well intervention	10.1	Frame agreements with ROV providers in place to be mobilised upon notification. ROV equipment deployed within 7 days.	1, 3B, 3C
		10.2	Source control vessel will have the following minimum specifications: <ul style="list-style-type: none"> • active heave compensated crane, rated to at least 150 T in shallower water and 250 T in deeper water • at least 90 m in length • deck has water/electricity supply • deck capacity to hold at least 110 T of capping stack. 	1, 3B, 3C
		10.3	Identify source control vessel availability within 24 hours and begin contracting process. Vessel mobilised to site for deployment within 16 days for conventional capping.	1, 3B, 3C
		10.4	Hot Stab and/or well intervention attempt made using ROV and SFRT within 11 days.	1, 3B, 3C
		10.5	Capping stack on suitable vessel mobilised to site within 16 days. Deployment and well intervention attempt will be made once safety and metocean conditions are suitable.	1, 3C
		10.6	Wild Well Control Inc (WWCI) staff available all year round to assist with the mobilisation, deployment, and operation of the capping stack and well intervention equipment.	1, 3B, 3C
		10.7	MODU towed to site for relief well drilling within 7 days for a locally available MODU, or 29 days for a MODU from outside the region.	1, 3C
		10.8	First well kill attempt completed within 69 days.	1, 3B, 3C
		10.9	Open communication line(s) to be maintained between CIMT and infield operations to ensure awareness of progress against plan(s).	1, 3A, 3B
		10.10	Monthly monitoring of the availability of MODUs through existing market intelligence including current Safety Case history, to meet specifications for relief well drilling. Titleholders of suitable MODUs notified.	3C
		10.11	An approved WOMP is in place which includes summary relief well and source control planning information.	1, 3A

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Environmental Performance Outcome		To stop the flow of hydrocarbons into the marine environment		
Control measure		Performance Standard		Measurement Criteria (Section 5.9)
11	Support vessels	11.1	Monthly monitoring of availability of larger vessels through existing Frame Agreements and market intelligence to meet specifications for source control.	3C
		11.2	Frame agreements for Infield Support Vessels (ISVs) require vessels maintain in-force safety case approvals covering ROV operations and provide support in the event of an emergency.	1, 3B, 3C
		11.3	MODU and vessel contracts include clause outlining requirement for support in the event if an emergency	1, 3C
12	Safety case	12.1	Woodside will prioritise MODU or vessel(s) for intervention work(s) that have an existing safety case.	1, 3C
		12.2	Woodside Planning, Logistics, and Safety Officers (on-roster/ call 24/7) to assist in expediting the safety case assessment process as far as practicable.	1, 3C
		12.3	Woodside will maintain minimum safe operating standards that can be provided to MODU and vessel operators for safety case guidance.	1, 3C

The resulting source control capability has been assessed against the WCCS. The range of techniques provide a feasible and viable approach to well intervention and relief well drilling operations to stop the well flowing.

- The health and safety, financial, capital and operations/maintenance costs of implementing the alternative, additional or improved control measures identified and not carried forward are considered clearly disproportionate to the insignificant environmental benefit gained and/or not reasonably practicable for this PAP.
- Woodside has assessed the existing capability available and considered potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.2.

5.3 Source Control via Vessel SOPEP

Vessel source control will be conducted, where feasible and in accordance with MARPOL 73/78 Annex I, by the Vessel Master under the Shipboard Oil Pollution Emergency Plan (SOPEP) triggered by any loss of containment from the PAP vessels.

The SOPEP provides guidance to the Master and Officers on board the vessel with respect to the extra steps to be taken when an unexpected pollution incident has occurred or is likely to occur. The SOPEP contains all information and operational instructions required by IMO Resolution MEPC.54 (32) adopted on 6 March 1992, as amended by resolution MEPC.86 (44) adopted on 13 March 2000.

Its purpose is to set in motion the necessary actions to stop or minimise oil discharge and mitigate its effects and outlines responsibilities, pollution reporting requirements, procedures and resources needed in the event of a hydrocarbon spill from vessel activities.

In the event of the WCCS vessel collision event, the vessel master may engage precautionary marine manoeuvres to avoid collision or commence pumping operations to transfer marine diesel and thus minimise the release.

5.3.1 Environmental performance based on need

Woodside has established control measures, environmental performance outcomes, performance standards and measurement criteria to be used for vessel-source oil spill response during the PAP which are detailed in Section 6.7 of the EP. The vessel master's roles and responsibilities are described in EP Section 7.5.

Performance standards for each contracted PAP vessel are detailed in the vessel's specific SOPEP.

These standards ensure that sufficient resources are available and are adequately tested to ensure implementation of the SOPEP in the event of a hydrocarbon spill.

5.4 Shoreline Protection and Deflection

The placement of containment, protection or deflection booms on and near a shoreline is a response technique to reduce the potential volume of hydrocarbons contacting or spreading along shorelines, which may reduce the scale of shoreline clean-up. Hydrocarbons contained by the booms would be collected where practicable.

Shorelines would be protected where accessible via vessel or shore. Where hydrocarbon contact has already occurred, there may still be value in deploying protection equipment to limit further accumulations and preventing remobilisation of stranded hydrocarbons.

Shoreline protection and deflection equipment would be mobilised to selected locations, where the following conditions were met:

- Sea-states and hydrocarbon characteristics are safe to deploy protection and deflection measures,
- Oil trajectory has been identified as heading towards identified RPAs.

5.4.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which the response need can be based:

- Floating surface oil in sufficient concentrations for effective operational monitoring is expected to be limited with surface concentrations of 10 g/m² reaching up to five receptors from the well location, with the shortest time to contact being 1.5 days (36 hours). Floating surface oil at concentrations of 100 g/m² were not predicted for this scenario.
- No shoreline contact is predicted at feasible response threshold (>100 g/m²) for the duration of the spill.
- The shortest timeframe that shoreline contact from floating oil (below response threshold) is predicted is 1.5 days (36 hours).
- The time to contact for oil at concentrations of entrained hydrocarbons greater than 100 ppb at shoreline receptors is 5 hours at both Ningaloo Marine Park and Ningaloo Coast World Heritage Marine Park.
- Arrangements for support organisations who provide specialist services or resources should be tested regularly.
- Plans, procedures and support documents need to be in place for Operational and Support functions. These should be reviewed and updated regularly.
- Arrangements for support organisations who provide specialist services (trained personnel, protection and deflection equipment) and/or resources and should be tested regularly.
- Tactical Response Plans (TRPs) for Response Protection Areas (RPAs) along with other relevant plans, procedures and support documents need to be in place for Operational and Support functions. These should be reviewed and updated regularly.

In addition, a number of assumptions are required to estimate the response need for Shoreline Protection and Deflection. These assumptions have been described in the table below.

Table 5-5: Response Planning Assumptions – Shoreline Protection and Deflection

Response Planning Assumptions	
Safety considerations	<p>Shoreline protection and deflection operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site. Personnel safety issues may include:</p> <ul style="list-style-type: none"> • hydrocarbon gas and/or liquid exposure • safe for deployment and conditions within range of vessels • high ambient temperatures.
Shoreline Protection and Deflection	<ul style="list-style-type: none"> • One Shoreline Protection and Deflection operation may include; • Quantity of shoreline sealing boom (as outlined in TRP) • Quantity of fence or curtain boom (as outlined in TRP) • 1-2 x trained supervisors • 8-10 x personnel/ labour hire <p>Specific details of each operation would be tailored to the Tactical Response Plan implemented (where available).</p>

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5.4.2 Environmental performance based on need

Table 5-6: Environmental Performance – Shoreline protection and deflection

Environmental Performance Outcome		To stop hydrocarbons encountering particularly sensitive areas		
Control measure		Performance Standard	Measurement Criteria (Section 5.9)	
13	Response teams	13.1	In liaison with WA DoT (for Level 2/3 incidents), relevant Tactical Response Plans (TRPs) will be identified in the First Strike plan for activation (within 24 hours/ 1 day prior to a predicted impact).	1, 3A, 3C, 4
		13.2	In liaison with WA DoT (for Level 2/3 incidents), mobilise teams to RPAs within 48 hours/ 2 days. Teams to contaminated RPAs comprised of: <ul style="list-style-type: none"> • 1-2 trained specialists per operation • 8-10 personnel/labour hire • Personnel sourced through resource pool. 	1, 2, 3B, 3C, 4
		13.3	In liaison with WA DoT (for Level 2/3 incidents), SPD operation mobilised within 48 hours to each identified RPA. Expected to be at RPAs within 2 days (operation determined by operational NEBA)	1, 3A, 3B, 4
		13.4	12 trained personnel available within 48 hours/ 2 days prior to a predicted impact sourced through resource pool.	1, 2, 3A, 3B, 3C, 4
		13.5	Open communication line to be maintained between CIMT and infield operations to ensure awareness of progress against plan(s).	1, 3A, 3B
		13.6	The safety of shoreline response operations will be considered and appropriately managed. During shoreline operations: <ul style="list-style-type: none"> • All personnel in a response will receive an operational/safety briefing before commencing operations • Gas monitoring and site entry protocols will be used to assess safety of an operational area before allowing access to response personnel 	1, 3B, 4
14	Response equipment	14.1	Equipment mobilised from closest stockpile (within 24-48 hours/ 1-2 days).	1, 3A, 3C, 4
		14.2	Supplementary equipment mobilised from State, AMOSC, AMSA stockpiles (within 48-72 hours/ 2-3 days).	1, 3C, 3D, 4
		14.3	Supplementary equipment mobilised from OSRL (> 72 hours/ 3 days).	
		14.4	Woodside maintains integrated fleet of vessels. Additional vessels can be sourced through existing contracts/frame agreements	1, 3A, 3C, 4
15	Management of Environmental Impact of the response risks	15.1	If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic environments with a preference for areas of sandy seabed where they can be identified	1
		15.2	Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines	

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The resulting shoreline protection and deflection capability has been assessed against the WCCS. The range of techniques provide an ongoing approach to shoreline protection and deflection at identified RPAs.

Under optimal conditions, during the subsea and surface releases the capability available exceeds the need identified. It indicates that, the shoreline protection and deflection capability have the following expected performance:

- Stochastic modelling scenarios indicate that first shoreline impact at Exmouth Coast (including Ningaloo Coast WH and Ningaloo MP (State)) within 1.5 days for the Macedon Operations (Cwth) Vessel Collision scenario.
- Existing capability allows for mobilisation and deployment of shoreline protection operations by Day 1-2 (if required). Given shoreline contact is predicted on Day 1.5, the existing capability is considered sufficient to mobilise and deploy protection prior to hydrocarbon contact, guided by the ongoing operational monitoring. However, given the low concentrations predicted, shoreline protection and deflection is considered an opportunistic response strategy if applicable at the time.
- One significant constraint on expanding the scale of response operations is the availability of accommodation and transport services in the region between Exmouth and Port Hedland, and the management of response generated waste. From previous assessment of accommodation in this region, Woodside estimates that current accommodation can cater for a range of 500-700 personnel per day for an ongoing operation.
- TRPs have been developed for all identified RPAs excepting international locations.
- Woodside has assessed the existing capability available and considered potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 946.3.

5.5 Oiled wildlife response (including hazing)

Oiled wildlife response (OWR) includes wildlife surveillance/ reconnaissance, wildlife hazing, pre-emptive capture, and the capture, cleaning, treatment, and rehabilitation of animals that have been oiled. In addition, it includes the collection, post-mortem examination, and disposal of deceased animals that have succumbed to the effects of oiling.

For a petroleum activity spill in Commonwealth waters, Woodside is required to take the role of Control Agency and will be responsible for the wildlife response. In such circumstances, Woodside would implement a response in accordance with the *Oiled Wildlife Operational Plan*, the WA Oiled Wildlife Response Plan (WAOWRP) (DBCA, 2022a) and the WA OWR Manual (DBCA, 2022b). The *Oiled Wildlife Operational Plan* includes the process for the CIMT to mobilise resources depending on the nature and scale of the spill. Oiled wildlife operations would be implemented with advice and assistance from the Oiled Wildlife Advisor from the Department of Biodiversity, Conservation and Attractions (DBCA).

The key plan for OWR in WA is the WAOWRP (DBCA, 2022a). The WAOWRP establishes the framework for preparing and responding to potential or actual wildlife impacts during a spill and sets out the management arrangements for implementing an OWR in conjunction with the DoT *State Hazard Plan – Maritime Environmental Emergencies* (SHP-MEE). It is the responsibility of DBCA to administer the WAOWRP under the direction of the DoT. The WA OWR Manual (DBCA, 2022b) supports, and should be used in conjunction with, the WAOWRP. The purpose of the WA OWR Manual is to standardise the operating procedures, protocols and processes for an OWR during a spill event in WA waters, and to create alignment between the wildlife response processes and the overall incident response (DBCA, 2022b).

If a spill occurs in WA State waters or enters State waters, DBCA is the Jurisdictional Authority for wildlife, and for level 2/3 spills, will also lead the oiled wildlife response under the control of the DoT. DBCA is the State Government agency responsible for administering the *Biodiversity Conservation Act 2016 (BC Act)*, which has provisions for authorising activities that affect wildlife.

For level 1 spills in State waters, Woodside is required to take the role of Control Agency, including for wildlife response. It is, however, also an expectation that for level 2/3 petroleum activity spills, Woodside will conduct the initial first-strike response actions for wildlife response and continue to manage those operations until DBCA is activated as the lead agency for wildlife response and formal handover occurs. Following formal handover, Woodside will function as a support organisation for the OWR and will be expected to continue to provide planning and resources as required.

Woodside retains specialist personnel to support and manage oiled wildlife operations, including trained and competent responders for deployment in Exmouth and Dampier. Additional personnel would be sourced through Woodside's arrangements to support an oiled wildlife response as required.

5.5.1 Response need based on predicted consequence parameters

Wildlife Response Priority Areas and Assessment of Wildlife Impact

French-McCay et al. (2002), based on a review of existing literature at the time, determined lethal thresholds for floating and shoreline oil for the external coating of wildlife to be 10 g/m² for floating, and 100 g/m² for shoreline accumulation. It should however be noted that toxicity thresholds for wildlife are likely to be highly variable due to differences in species sensitivity, type of hydrocarbon, type of exposure (ingestion or external oiling), life-stage, and on-water versus land habitat.

For planning purposes, determination of wildlife priority protection areas is based on stochastic modelling of the worst-case spill scenarios at 10 g/m² for floating, and 100 g/m² for shoreline

accumulation (acknowledging that impacts to wildlife may occur at lower concentrations), the known presence of wildlife, and in consideration of the following:

- Presence of high densities of wildlife, threatened species, and/or endemic species with high site fidelity
- Greatest probability of shoreline accumulation
- Shortest timeframe to contact

Table 5-7 outlines the wildlife response priority areas for this activity. At the time of a spill, identification and allocation of wildlife response priority areas should also take into consideration any key biological activities. Additional detail regarding species and their key biological activities within the vicinity of the PAP are described in Section 4.6 of the EP.

For WA, the Pilbara and Kimberley Regional Oiled Wildlife Plans (DBCA (formerly Department of Parks and Wildlife), 2014) provide useful information relating to wildlife priority response areas in their respective regions.

Table 5-7: Key at-risk species potentially in Priority Protection Areas and open ocean

Species	Exmouth Coastline	Muiron Islands	Murion Islands MMA	Ningaloo Coast WH	Ningaloo MP (State)
Marine turtles (including foraging and inter-nesting areas and significant nesting beaches)	✓	✓	✓	✓	✓
Whale sharks (migration to and from waters at Ningaloo)	✓	✓	✓	✓	✓
Seabirds and/or migratory shorebirds	✓	✓	✓	✓	✓
Cetaceans – migratory whales	✓	✓	✓	✓	✓
Cetaceans – dolphins and porpoises	✓	✓	✓	✓	✓
Dugongs			✓		
Sea snakes	✓	✓	✓	✓	✓

The following statements identify the key parameters upon which a wildlife response need can be based:

- Floating oil at $>10 \text{ g/m}^2$ is predicted at Exmouth Coastline, Ningaloo Coast WH, and Ningaloo Marine Park within 36 hour for the modelled scenario.
- There is no predicted shoreline accumulation at response thresholds ($>100 \text{ g/m}^2$).
- At sea there are likely to be low numbers of at risk or impacted wildlife, and limited opportunities to rescue wildlife, given the distribution and behaviour of animals in the open marine environment. At sea, continued wildlife reconnaissance, carcass recovery, sampling of carcasses that cannot be retrieved and scientific monitoring are more likely to be the focus of response efforts.
- As the surface oil approaches shorelines and as oil accumulates on the shoreline, potential for oiled wildlife impacts are likely to increase as well as opportunities to rescue wildlife.
- It is estimated that the wildlife impact would be between medium and high, as defined in the WAOWRP (DBCA, 2022a) (**Table 5-8**).

Table 5-8: WAOWRP Guide for rating wildlife impact of an oil spill (DBCA, 2022)

Wildlife Impact Rating	Low	Medium	High
What is the likely duration of the wildlife response?	<3 days	3-10 days	>10 days
What is the likely total intake of animals?	<10	11-25	>25
What is the likely daily intake of animals?	0-2	2-5	>5
Are threatened species, or species protected by treaty, likely to be impacted, either directly or by pollution of habitat or breeding areas?	No	Yes – possible	Yes – likely
Is there likely to be a requirement for building primary care facility for treatment, cleaning and rehabilitation?	No	Yes – possible	Yes – likely

Tactics

Where there is imminent or actual impact to wildlife, Woodside will activate the Wildlife Division and follow the oiled wildlife incident management framework and implementation plan outlined in the Woodside *Oiled Wildlife Operational Plan*.

In Commonwealth waters, Woodside will be responsible for the planning and implementation of the OWR in its entirety. Noting that at sea, and in comparison to the shoreline, there are likely to be less wildlife impacted by an oil spill and limited opportunities to rescue wildlife, given the distribution and behaviour of animals in the open marine environment. At sea, continued wildlife reconnaissance, carcass recovery, sampling of carcasses that cannot be retrieved and integration with scientific monitoring are more likely to be the focus of the OWR.

In State waters, Woodside will conduct the initial first-strike response actions for wildlife and continue to manage those operations until DBCA is activated as the lead agency for wildlife response and formal handover occurs. Following formal handover, Woodside will function as a support organisation for the OWR and will be expected to continue to provide planning and resources as required.

If a protracted response is likely, requiring preventative actions and/or wildlife rescue, and formal hand over to the Control Agency (in State waters) has not yet occurred, the Wildlife Division will be responsible for the development of the Wildlife Division portion of the IAP. Preventative actions, such as hazing, along with capture, intake and treatment require a higher degree of planning, approval (licenses) and skills and will be planned for and carried out under the IAP as outlined in the *Oiled Wildlife Operational Plan* and in accordance with the WAOWRP (DBCA, 2022a) and WA OWR Manual (DBAC, 20022b).

The oiled wildlife response technique targets key wildlife populations at risk within Commonwealth open waters and the nearshore waters as described in **Section 4** of the EP.

5.5.2 Environmental performance based on need

Table 5-9: Environmental Performance – Oiled Wildlife Response

Environmental Performance Outcome		Oiled Wildlife Response is conducted in accordance with the Western Australian Oiled Wildlife Response Plan (WAOWRP, 2022) to ensure it is conducted in accordance with legislative requirements to house, release or euthanise wildlife under the <i>Biodiversity Conservation Act 2016</i> .		
Control measure		Performance Standard		Measurement Criteria (Section 5.9)
16	Wildlife response arrangements	16.1	Oiled Wildlife Operational Plan in place and utilised during a response to plan, coordinate, implement and terminate operations	1, 3A, 4
		16.2	Initiate a wildlife first strike response 5 days prior to confirmed or imminent wildlife contact as directed by relevant Operational Monitoring techniques (OM01-05) and in liaison with DBCA	1
17	Wildlife response equipment	17.1	Maintain contract with AMOSC for immediate access to oiled wildlife response equipment.	1, 3C, 3D, 4
		17.2	Maintain contract with OSRL to access additional oiled wildlife response equipment.	1, 3C, 3D, 4
18	Wildlife responders	18.1	Two Oiled Wildlife Team Members to supervise the oiled wildlife operations who have completed an Oiled Wildlife Response Management course.	1, 2, 3B
		18.2	Maintain contract with AMOSC for immediate access to trained oiled wildlife response specialists	1, 3B, 3C
		18.3	Maintain contract with OSRL to access additional trained oiled wildlife response specialists	1, 3B, 3C
		18.4	Open communication line to be maintained between CIMT and infield operations to ensure awareness of progress against plan(s).	1, 3A, 3B
19	Management of environmental impacts of response risks	19.1	Oiled wildlife operations (including hazing) would be implemented with advice and assistance from the Oiled Wildlife Advisor from the DBCA, and in accordance with the processes and methodologies described in the WA OWRP and the relevant regional plan.	1

The resulting wildlife response capability has been assessed against the WCCS. The range of techniques provide an ongoing approach to response at identified RPAs.

Under optimal conditions, during the subsea or surface release, the capability available meets the need identified. It indicates that, the wildlife response capability has the following expected performance:

- Undertake OWR first strike response:
 - Mobilisation of operational monitoring (OM01-05) to identify wildlife and RPAs contacted or at imminent risk of contact by hydrocarbons.
- Availability and mobilisation of trained OWR personnel to supervise OWR activities.
- Access to wildlife resources (personnel and equipment) to meet the needs where there are medium or high levels of wildlife impact.

5.6 Waste Management

Waste management is considered a support technique to wildlife response, containment and recovery and shoreline clean-up. Waste generated and collected during the response that will require handling, management and disposal may consist of:

- Liquids (hydrocarbons and contaminated liquids) collected during wildlife response, and/or
- Solids/semi-solids (oily solids, garbage, contaminated materials) and debris (e.g. seaweed, sand, woods, and plastics) collected during wildlife response.

Expected waste volumes during an event are likely to vary depending on oil type, volume released, response techniques employed and how weathering of hydrocarbons. Waste management, handling and capacity should be scalable to ensure continuous response operations can be maintained.

All waste management activities will follow the Environment Protection (Controlled Waste) Regulations 2004 and the waste will be managed to minimise final disposal volumes. Waste treatment techniques will consider contaminated solids treatment to allow disposal to landfill and solids with high concentrations of hydrocarbon will be treated and recycled where possible or used in clean fill if suitable.

The waste products would be transported from response locations to the nearest suitable staging area/waste transfer station for treatment, disposal or recycling. Waste will be transferred with appropriately licensed vehicles. Containers will be available for temporary waste storage and will be:

- labelled with the waste type
- provided with appropriate lids to prevent waste being blown overboard
- banded if storing liquid wastes.
- processes will be in place for transfers of bulk liquid wastes and include:
 - inspection of transfer hose undertaken prior to transfer
 - watchman equipped with radio visually monitors loading hose during transfer
 - tank gauges monitored throughout operation to prevent overflow

The *Oil Spill Preparedness Waste Management Support Plan* details the procedures, capability and capacity in place between Woodside and its primary waste services contractor to manage waste volumes generated from response activities.

5.6.1 Response need based on predicted consequence parameters

Table 5-10: Response Planning Assumptions – Waste Management

Response planning assumptions: Waste management	
Waste loading per m ³ oil recovered (multiplier)	Oiled wildlife response – approximately 1 m ³ of oily solid and liquid waste generated for each wildlife unit cleaned

5.6.2 Environmental performance based on need

Table 5-11: Environmental Performance – Waste Management

Environmental Performance Outcome		To minimise further impacts, waste will be managed, tracked and disposed of in accordance with laws and regulations.		
Control measure	Performance Standard		Measurement Criteria (Section 5.9)	
20	Waste Management	20.1	Contract with waste management services for transport, removal, treatment and disposal of waste	1, 3A, 3B, 3C, 4
		20.2	Access to at least 43 m ³ of solid and liquid waste storage available within 2 days upon activation of 3 rd party contract.	
		20.3	Recovered hydrocarbons and wastes will be transferred to licensed treatment facility for reprocessing or disposal.	
		20.4	Waste management provider support staff available year-round to assist in the event of an incident with waste management as detailed in contract.	
		20.5	Open communication line to be maintained between CIMT and waste management services to ensure the reliable flow of accurate information between parties.	
		20.6	Waste management to be conducted in accordance with Australian laws and regulations	1, 3A, 3B
		20.7	Waste management services available and employed during response	1, 3A, 3B, 3C, 4
21	Management of environmental impacts of response risks	21.1	All oiled wildlife response sites zoned and marked before operations commence to prevent secondary contamination and minimise the mixing of clean and oiled waste	1, 3A, 3B, 3C, 4

The resulting waste management capability has been assessed against the WCCS. The range of techniques provide an ongoing approach to waste management at identified RPAs.

Given that modelling predicts that there will be no floating oil at recoverable threshold concentrations and no shoreline impact at feasible clean-up threshold concentrations, the only waste management requirements will be for oiled wildlife response and the capability available therefore exceeds the need identified.

It indicates that the waste management capability has the following expected performance:

- Woodside currently has access to service providers committed to providing approximately 120,000 m³ liquid waste over the duration of the spill
- Woodside has assessed the existing capability available and considered potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section
- 6.6.

5.7 Scientific monitoring

A scientific monitoring program (SMP) would be activated following a Level 2 or 3 unplanned hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors. This would consider receptors at risk (ecological and socio-economic) for the entire predicted EMBA and in particular, any identified Pre-emptive Baseline Areas (PBAs) for the credible spill scenario(s) or other identified unplanned hydrocarbon releases associated with the Petroleum Activities Program (PAP) (refer to Table 2-1: PAP credible spill scenarios).

The outputs of the stochastic hydrocarbon spill modelling are used to assess the environmental risk, in terms of delineating which areas of the marine environment are predicted to be exposed to hydrocarbons exceeding environmental threshold concentrations (refer to Table 2-5, Section 2.3.4). The summary of all the locations where hydrocarbon thresholds could be exceeded by any of the simulations modelled is defined as the EMBA. The Petroleum Activities Program worst-case credible spill scenario define the EMBA and are the basis of the SMP approach presented in this section.

It should be noted that the resulting SMP receptor locations differ from the Response Protection Areas (RPAs) presented and discussed in Section 3 of this document due to the applicability of different hydrocarbon threshold levels. The SMP would be informed by the data collected via the operational monitoring program (OMP) studies, however, it differs from the OMP in being a long-term program independent of, and not directing, the operational oil spill response or monitoring of impacts from response activities (refer to Section 5.1) for operational monitoring overview).

Key objectives of the Woodside oil spill scientific monitoring program are:

- Assess the extent, severity and persistence of the environmental impacts from the spill event; and
- Monitor subsequent recovery of impacted key species, habitats and ecosystems.

The SMP comprises ten targeted environmental monitoring programs to assess the condition of a range of physico-chemical (water and sediment) and biological (species and habitats) receptors including EPBC Act listed species, environmental values associated with protected areas and socio-economic values, such as fisheries. The ten SMPs are as follows:

- SM01 – Assessment of the presence, quantity and character of hydrocarbons in marine waters (linked to OM01 to OM03)
- SM02 – Assessment of the presence, quantity and character of hydrocarbons in marine sediments (linked to OM01 and OM05)
- SM03 – Assessment of impacts and recovery of subtidal and intertidal benthos
- SM04 – Assessment of impacts and recovery of mangroves/saltmarsh habitat
- SM05 – Assessment of impacts and recovery of seabird and shorebird populations
- SM06 – Assessment of impacts and recovery of nesting marine turtle populations
- SM07 – Assessment of impacts to pinniped colonies including haul-out site populations
- SM08 – Desktop assessment of impacts to other non-avian marine megafauna
- SM09 – Assessment of impacts and recovery of marine fish (linked to SM03)
- SM10 – Assessment of physiological impacts to important fish and shellfish species (fish health and seafood quality/safety) and recovery.

These SMPs have been designed to cover all key tropical and temperate habitats and species within Australian waters and broader, if required. A planning area for scientific monitoring is also identified to acknowledge potential hydrocarbon contact below the environmental

threshold concentrations and beyond the EMBA. This planning area has been set with reference to the entrained low exposure value of 10 ppb detailed in NOPSEMA Bulletin #1 Oil Spill Modelling (2019), as shown in Figure 5-1.

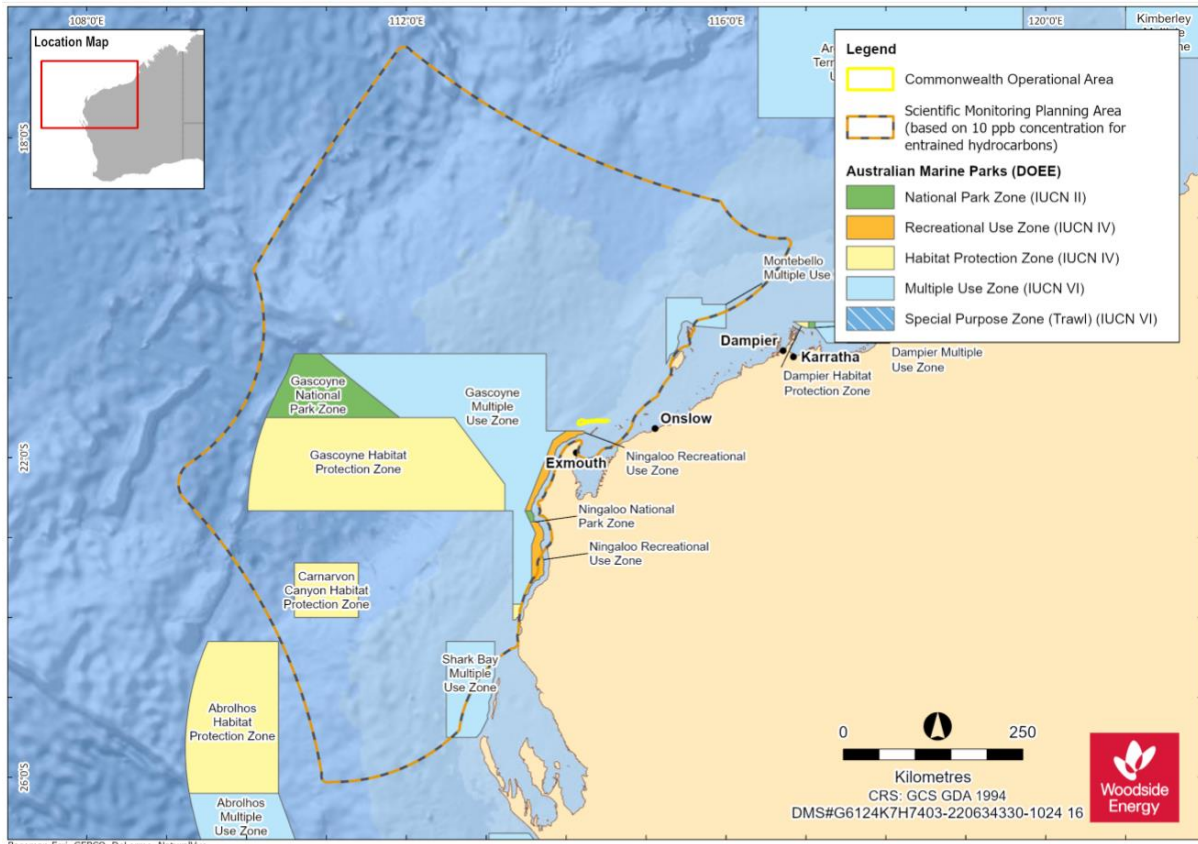


Figure 5-1: The planning area for scientific monitoring based on the area potentially contacted by the low (below ecological impact) entrained hydrocarbon threshold of 10 ppb in the event of the worst-case credible spill scenario (CS-01).

Please note that Figure 5-1 represents the overall combined extent of the oil spill model outputs based on 200 replicate simulations over an annual period for CS-01 and therefore represents the largest spatial boundaries of multiple CS-01 oil spill combinations, not the spatial extent of a single CS-01 spill.

5.7.1 Scientific Monitoring Deployment Considerations

Scientific Monitoring Deployment Considerations	
Existing baseline studies for sensitive receptor locations predicted to be affected by a spill	<p>Pre-emptive Baseline Areas (PBAs) of the following two categories:</p> <ul style="list-style-type: none"> • PBAs within the predicted <10-day hydrocarbon contact time prediction: The approach is to conduct a desktop review of available and appropriate baseline data for key receptors for locations (if any) that are potentially impacted within 10 days of a spill and look to conduct baseline data collection to address data gaps and demonstrate spill response preparedness. Planning for baseline data acquisition is typically commenced pre-PAP and execution of studies undertaken with consideration of weather, receptor type, seasonality and temporal assessment requirements. • PBAs >10 days time to predicted hydrocarbon contact in the event of an unplanned hydrocarbon release (from Macedon operational activities). SMP activation (as per the Macedon Operations (Cwth) First Strike Plan) directs the SMP team to follow the steps outlined in the SMP Operational Plan. The steps include: checking the availability and type of existing baseline data, with particular reference to any Pre-emptive Baseline Areas (PBAs) identified as >10 days to hydrocarbon contact. Such information is used to identify response phase PBAs and plan for the activation of SMPs for pre-emptive (i.e. pre-hydrocarbon contact) baseline assessment.
Pre-emptive Baseline in the event of a spill	Activation of SMPs in order to collect baseline data at sensitive receptor locations with predicted hydrocarbon contact time >10 days (as documented in ANNEX C).
Survey platform suitability and availability	In the event of the SMP activation, suitable survey platforms are available and can support the range of equipment and data collection methodologies to be implemented in nearshore and offshore marine environments.
Trained personnel to implement SMPs suitable and available.	Access to trained personnel and the sampling equipment contracted for scientific monitoring via a dedicated scientific monitoring program standby contract.
Met-ocean conditions	<p>The following met-ocean conditions have been identified to implement SMPs:</p> <ul style="list-style-type: none"> • Waves <1 m for nearshore systems • Waves <1.5 m for offshore systems • Winds <20 knots • Daylight operations only <p>SMP implementation will be planned and managed according to HSE risk reviews and the met-ocean conditions on a day to day basis by SMP operations.</p>

5.7.2 Response planning assumptions

Response Planning Assumptions	
Pre-emptive Baseline Areas (PBAs)	<p>Pre-emptive Baseline Areas (PBAs) identified through the application of defined hydrocarbon impact thresholds during the Quantitative Spill Risk Assessment process and a consideration of the minimum time to contact at receptor locations fall into two categories:</p> <ul style="list-style-type: none"> • PBAs for which baseline data exist or are planned for and data collection may commence pre-PAP (≤ 10 days minimum time to contact). • PBAs (> 10 days minimum time to contact) for which baseline data may be collected in the event of an unplanned hydrocarbon release. Response phase

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	<p>PBAs are prioritised for SMP activities due to vulnerability (i.e. time to contact and environmental sensitivity) to potential impacts from hydrocarbon contact and an identified need to acquire baseline data.</p> <p>Time to hydrocarbon contact of >10 days has been identified as a minimum timeframe within which it is feasible to plan and mobilise applicable SMPs and commence collection of baseline (pre-hydrocarbon contact) data, in the event of an unplanned hydrocarbon release from the Macedon Operations facility.</p> <p>Pre-emptive Baseline Areas for the Macedon Operations facility are identified and listed in ANNEX D, Table D-1. The PBAs together with the situational awareness (from the operational monitoring) are the basis for the response phase SMP planning and implementation.</p>
Pre-Spill	<p><u>Macedon Operations (Cwth)</u></p> <p>A review of existing baseline data for receptor locations (refer to Annex D) with potential to be contacted by surface, dissolved or entrained hydrocarbons at environmental thresholds within ≤10 days, relating to the credible hydrocarbon release for Macedon facility has identified the following:</p> <ul style="list-style-type: none"> • Ningaloo Coast (North/ Northwest Cape, Middle and South) (WHA, and State Marine Park) • Barrow Island (including State Nature Reserves, State Marine Park and Marine Management Area) • Muiron Islands (WHA, State Marine Management Area) <p>Australian Marine Parks (AMP) potentially affected include:</p> <ul style="list-style-type: none"> • Gascoyne AMP • Ningaloo AMP • Montebello AMP <p>All the AMPs are located in offshore waters where hydrocarbon exposure is possible from floating hydrocarbons (on surface waters) and in the upper water column (0-20 m depth range, approximately).</p>
In the Event of a Spill	<p>Receptor locations with >10 days to hydrocarbon contact, as well as the wider area, will be investigated and identified by the SMP team (in the Environment Unit of the CIMT) as the spill event unfolds and as the situational awareness provided by the OMPs permits delineation of the spill affected area (for example, updates to the spill trajectory tracking). The full list is presented in Annex D, based on the PAP credible spill scenario (Table 2-1).</p> <p>The unfolding spill affected area predictions and confirmation of appropriate baseline data will determine the selection of receptor locations and SMPs to be activated in order to gather pre-emptive (pre-hydrocarbon contact) data. Refer to ANNEX C for further details on scientific monitoring plan implementation and delivery). The timing of SMP activation and mobilisation of the individual SMPs to undertake data collection will be decided and documented by the Woodside SMP team following the process outlined in the SMP Operational Plan.</p> <p>In the event key receptors within geographic locations that are potentially impacted after 10 days following a spill event or commencement of the spill and where adequate and appropriate baseline data are not available, there will be a response phase effort to collect baseline data for the following purposes:</p> <ol style="list-style-type: none"> i. Priority will be given to the collection of baseline data for receptors predicted to be within the spill affected area prior to hydrocarbon contact. The process is initiated with the investigation of available baseline and time to hydrocarbon contact (>10 days which is sufficient time to mobilise SMP teams and acquire data before hydrocarbon contact). With reference to the [project/operation] facility, priority would be focused on [location].

	ii. Collect baseline data for receptors predicted to be outside the spill affected area so reference datasets for comparative analysis with impacted receptor types can be assessed post-spill.
Baseline Data	<p>A summary of the spill affected area and receptor locations as defined by the EMBA for the PAP (PAP) credible spill scenario(s) is presented Section 2.3.1</p> <p>The key receptors at risk by location and corresponding SMPs based on the EMBA for the PAP are presented in ANNEX D, as per credible spill event scenario(s). This matrix maps the receptors at risk with their location and the applicable SMPs that may be triggered in the event of a Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors. Receptor locations and applicable SMPs are colour coded to highlight possible time to contact based on receptor types and locations.</p> <p>The status of baseline studies relevant to the PAP are tracked by Woodside through the maintenance of a Corporate Environment Environmental Baseline Database (managed by the Woodside Environmental Science team), as well as accessing external databases such as the Department of Water and Environmental Regulation (WA) Index of Marine Surveys for Assessment (IMSA) [1] (refer to ANNEX C: Oil Spill Scientific Monitoring Program).</p>

5.7.3 Summary – scientific monitoring

The resulting scientific monitoring capability has been assessed against the PAP credible spill scenario(s). The range of techniques provide an ongoing approach to monitoring operations to assess and evaluate the scale and extent of impacts. All known reasonably practicable control measures have been adopted with the cost and organisational complexity of these options determined to be moderate and the overall delivery effectiveness determined to be medium. The SMP's main objectives can be met, with no additional, alternative or improved control measures providing further benefit.

5.7.4 Response planning: need, capability and gap – scientific monitoring

The receptor locations identified in Annex D provide the basis of the SMPs likely to be selected and activated. Once the Woodside SMP Delivery team and the SMP standby contractor have been stood up and the exact nature and scale of the spill becomes known, the SMPs to be activated will be confirmed as per the process set out in the SMP Operational.

Scope of SMP Operations in the event of a hydrocarbon spill

Receptor locations of interest for the SMP during the response phase are:

- Ningaloo Coast (North/ Northwest Cape, Middle and South) (WHA, and State Marine Park)
- Barrow Island (including State Nature Reserves, State Marine Park and Marine Management Area)
- Muiron Islands (WHA, State Marine Management Area)
- Gascoyne AMP
- Ningaloo AMP
- Montebello AMP

Documented baseline studies are available for certain receptor locations including the Ningaloo Coast and Muiron Islands (Annex D, Table D-2). The SMP technique; however, would be to deploy SMP teams to maximise the opportunity to collect pre-emptive data at

[1] <https://biocollect.ala.org.au/imsa#max%3D20%26sort%3DdateCreatedSort>

sensitive receptor locations. The exact locations where hydrocarbon contact occurs may be unpredictable, SM01 would be mobilised as a priority to be able to detect hydrocarbons and track the leading edge of the spill to verify where hydrocarbon contact occurs which will assist with where SMP resources are a priority need to obtain pre-emptive baseline data.

The ALARP assessment for the SMP (Section 6.7) considers alternate, additional, and/or improved control measures on each selected response technique.

5.7.5 Environmental performance based on need

Table 5-12: Scientific monitoring

Environmental Performance Outcome		Woodside can demonstrate preparedness to stand up the SMP to quantitatively assess and report on the extent, severity, persistence and recovery of sensitive receptors impacted from the spill event		
Control measure		Performance Standard		Measurement Criteria
22	<ul style="list-style-type: none"> Woodside has an established and dedicated SMP team comprising the Environmental Science Team and additional Environment Advisers within the HSEQ Function. 	22.1	SMP team comprises a pool of competent Environment Advisers (stand up personnel) who receive training regarding the SMP, SMP activation and implementation of the SMP on an annual basis	<ul style="list-style-type: none"> Training materials Training attendance registers Process that maps minimum qualification and experience with key SMP role competency and a tracker to manage availability of competent people for the SMP team including redundancy and rostering
23	<ul style="list-style-type: none"> Woodside have a SMP standby contractor to provide scientific personnel to resource a base capability of one team per SMP (SM01-SM10, see Table C-2, ANNEX C) as detailed in Woodside's SMP standby contractor Implementation Plan, to implement the oil spill scientific monitoring programs. The availability of relevant personnel is reported to Woodside on a monthly basis via a simple report on the base-loading availability of people for each of the SMPs comprising field work for data collection (SMP resourcing report register). In the event of a spill and the SMP is activated, the base-loading availability of scientific personnel will be provided by SMP standby contractor for the individual SMPs and where gaps in resources are identified, SMP standby contractor/Woodside will seek additional personnel (if needed) from other sources including Woodside's Environmental Services Panel. 	23.1	<p>Woodside maintains the capability to mobilise personnel required to conduct scientific monitoring programs SM01 – SM10 (except desktop based SM08):</p> <ul style="list-style-type: none"> Personnel are sourced through the existing standby contract with SMP standby, as detailed within the SMP Implementation Plan. Scientific Monitoring Program Implementation Plan describes the process for standing up and implementing the scientific monitoring programs. SMP team stand up personnel receive training regarding the stand up, activation and implementation of the SMP on an annual basis 	<ul style="list-style-type: none"> HSP Internal Control Environment tracks the quarterly review of the Oil Spill Contracts Master. SMP resource report of personnel availability provided by SMP contractor on monthly basis (SMP resourcing report register). Training materials Training attendance registers Competency criteria for SMP roles SMP annual arrangement testing and reporting
24	<ul style="list-style-type: none"> Roles and responsibilities for SMP implementation are captured in Table C-1 (Annex C) and the SMP team (as per the organisational structure of the CIMT) is outlined in SMP Operational Plan. Woodside has a defined Crisis and Incident Management structure including Source Control, Operations, Planning and Logistics functions to manage a loss of well control response. SMP Team structure, interface with SMP standby contractor (standby SMP contractor) and linkage to the CIMT is presented in Figure C-1, ANNEX C Woodside has a defined Command, Control and Coordination structure for Incident and Emergency Management that is based on the AIMS framework utilised in Australia. Woodside utilises an online Incident Management Information System (IMIS) to coordinate and track key incident management functions. This includes specialist modelling programs, geographic information systems (GIS), as well as communication flows within the Command, Control and Coordination structure. SMP activated via the First Strike Plan. Step by step process to activation of individual SMPs provided in the SMP Operational Plan. All decisions made regarding SMP logged in the online IMIS (SMP team members trained in using Woodside's online Incident Management System) SMP component input to the CIMT Incident Action Plan (IAP) as per the identified CIMT timed sessions and the SMP IAP logged on the online IMIS Woodside Environmental Science Team provide awareness training on the activation and stand-up of the Scientific Monitoring Programme (SMP) for the Environment Advisers in Woodside who are listed on the SMP team on an annual basis. Woodside Environmental Science Team provide awareness training on the activation and stand-up of the Scientific Monitoring Programme (SMP) for the SMP standby contractor. Woodside Environmental Science Team co-ordinates an annual SMP arrangement testing exercise which the SMP standby contractor. SMP team participates in since 2016 (report on 2016 SMP simulation) and SMP standby contractor the SMP arrangements (people and equipment availability) tested annually since 2016. 	24.1	<ul style="list-style-type: none"> Woodside have established an SMP organisational structure and processes to stand up and deliver the SMP. 	<ul style="list-style-type: none"> SMP Oil Spill Scientific Monitoring Operational Plan SMP Implementation Plan SMP annual arrangement testing and reporting

25	<ul style="list-style-type: none"> Chartered and mutual aid vessels. Suitable vessels would be secured from the Woodside support vessels, regional fleet of vessels operated by Woodside and other operators and the regional charter market. Vessel suitability will be guided by the need to be equipped to operate grab samplers, drop camera systems and water sampling equipment (the individual vessel requirements are outlined in the relevant SMP methodologies (refer to Table C-2, ANNEX C). Nearshore mainland waters could use the same approach as for open water. Smaller vessels may be used where available and appropriate. Suitable vehicles and machinery for onshore access to nearshore SMP locations would be provided by Woodside's transport services contract and sourced from the wider market. Dedicated survey equipment requirements for scientific monitoring range from remote towed video and drop camera systems to capture seabed images of benthic communities to intertidal/onshore surveying tools such as quadrats, theodolites and spades/trowels, cameras and binoculars (specific survey equipment requirements are outlined in the relevant SMP methodologies (refer to Table C-2, ANNEX C)). Equipment would be sourced through the existing SMP standby contract with SMP standby contractor for SMP resources and if additional surge capacity is required this would be available through the other Woodside Environmental Services Panel Contractors and specialist contractors. SMP standby contractor can also address equipment redundancy through either individual or multiple suppliers. MoUs are in place with one marine sampling equipment companies and one analytical laboratory (SMP resourcing report register). Availability of SMP equipment for offshore/onshore scientific monitoring team mobilisation is within one week to ten days of the commencement of a hydrocarbon release. This meets the SMP mobilisation lead time that will support meeting the response objective of 'acquire, where practicable, the environmental baseline data prior to hydrocarbon contact required to support the post-response SMP. 	25.1	<p>Woodside maintains standby SMP capability to mobilise equipment required to conduct scientific monitoring programs SM01 – SM10 (except desktop based SM08):</p> <ul style="list-style-type: none"> Equipment are sourced through the existing standby contract with SMP standby contractor, as detailed within the SMP Implementation Plan. 	<ul style="list-style-type: none"> HSP Internal Control Environment tracks the quarterly review of the Oil Spill Contracts Master. SMP standby monthly resource reports of equipment availability provided by SMP contractor (SMP resourcing report register). SMP annual arrangement testing and reporting
26	<p>Woodside's SMP approach addresses the pre-PAP acquisition of baseline data for Pre-emptive Baseline Areas (PBAs) with ≤10 days if required following a baseline gap analysis process.</p> <p>Woodside maintains knowledge of Environmental Baseline data through:</p> <ul style="list-style-type: none"> Documentation annual reviews of the Woodside Baseline Environmental Studies Database, and specific activity baseline gap analyses. Accessing external databases such as the Department of Water and Environmental Regulation (WA) Index of Marine Surveys for Assessment (IMSA) (refer to ANNEX C: Oil Spill Scientific Monitoring Program). 	26.1	<ul style="list-style-type: none"> Annual reviews of environmental baseline data PAP specific Pre-emptive Baseline Area baseline gap analysis 	<ul style="list-style-type: none"> Annual review/update of Woodside Baseline Environmental Studies Database Desktop review to assess the environmental baseline study gaps completed prior to EP submission Accessing baseline knowledge via the SMP annual arrangement testing

Environmental Performance Outcome		SMP plan to acquire response phase monitoring targeting pre-emptive baseline data achieved		
Control measure		Performance Standard	Measurement Criteria	
27	<p>Woodside's SMP approach addresses:</p> <ul style="list-style-type: none"> Scientific data acquisition for PBAs >10 days to hydrocarbon contact and activated in the response phase and Transition into post-response SMP monitoring. 	<p>27.1 Pre-emptive Baseline Area (PBA) baseline data acquisition in the response phase</p> <p>If baseline data gaps are identified for PBAs predicted to have hydrocarbon contact in >10 days, there will be a response phase effort to collect baseline data. Priority in implementing SMPs will be given to receptors where pre-emptive baseline data can be acquired or improved.</p> <p>SMP team (within the Environment Unit of the CIMT) contribute SMP component of the CIMT Planning Function in development of the IAP.</p> <p>27.2 Post Spill contact</p> <p>For the receptors contacted by the spill in where baseline data are available, SMPs programs to assess and monitor receptor condition will be implemented post spill (i.e. after the response phase):</p>	<ul style="list-style-type: none"> Response SMP plan Woodside's online Incident Management System Records SMP component of the Incident Action Plan. <ul style="list-style-type: none"> SMP planning document SMP Decision Log Incident Action Plans (IAPs) 	

Environmental Performance Outcome		Implementation of the SMP (response and post-response phases)		
Control measure		Performance Standard	Measurement Criteria	

28	<ul style="list-style-type: none"> Scientific monitoring will address quantitative assessment of environmental impacts of a level 2 or 3 spill or any release event with the potential to contact sensitive environmental receptors. The SMP comprises ten targeted environmental monitoring programs. SMP supporting documentation: 1. Oil Spill Scientific Monitoring Operational Plan; (2) SMP Implementation Plan and (3) SMP Process and Methodologies Guideline The Oil Spill Scientific Monitoring Operational Plan details the process of SMP selection, input to the IAP to trigger operational logistic support services. Methodology documents for each of the ten SMPs are accessible detailing equipment, data collection techniques and the specifications required for the survey platform support. The SMP standby contractor holds a Woodside SMP implementation plan detailing activation processes, linkage with the Woodside SMP team and the general principles for the planning and mobilisation of SMPs to deliver the individual SMPs activated. Monthly resourcing report are issued by the SMP standby contractor (SMP resourcing report register. All SMP documents and their status are tracked via SMP document register. 	28.1	Implementation of SM01 SM01 will be implemented to assess the presence, quantity and character of hydrocarbons in marine waters during the spill event in nearshore areas	Evidence SM01 has been triggered: <ul style="list-style-type: none"> Documentation as per requirements of the SMP Operational Plan Woodside's online Incident Management System Records. SMP component of the IAP SMP data records from field
		28.2	Implementation of SM02-SM10 SM02-SM10 will be implemented in accordance with the objectives and activation triggers as per Table C-2 of Annex C.	Evidence SMPs have been triggered: <ul style="list-style-type: none"> Documentation as per requirements of the SMP Operational Plan Woodside's online Incident Management System Records. SMP component of the IAP SMP Data records from field
		28.3	Termination of SMP plans The Scientific Monitoring Program will be terminated in accordance with termination triggers for the SMP's detailed in Table C-2 of Annex C, and the Termination Criteria Decision-tree for Oil Spill Environmental Monitoring (Figure C-3 of Annex C):	Evidence of Termination Criteria triggered: <ul style="list-style-type: none"> Documentation and approval by relevant persons/ organisations to end SMPs for specific receptor types.

5.8 Incident Management System

The Incident Management System is both a control measure and a measurement criteria. As a control measure the IMS function is to prompt, facilitate and record the completion of three key response planning processes detailed below. As a measurement criteria the IMS records the evidence of the timeliness of all response actions included in the environmental performance standards and the plans used of the PAP.

As the IMS does not directly remove hydrocarbons spilt into the marine environment there is no direct relationship to the response planning need.

5.8.1 Incident action planning

The CIMT will be required to collect and interpret information from the scene of the incident to determine support requirements to the site-based CIMT, develop an incident action plan (IAP) and assist the CIMT with the execution of that plan. The site-based IC may request the CIMT to complete notifications internally within Woodside, to relevant persons/ organisations and government agencies as required. Depending on the type and scale of the incident either the CIMT DM or IC will be responsible for ensuring the development of the IAP. Incident Action Planning is an ongoing process that involves continual review to confirm techniques to control the incident are appropriate to the situation at the time.

5.8.2 Operational NEBA process

In the event of a response Woodside will confirm that the response techniques adopted at the time of Environment Plan/ Oil Pollution Emergency Plan (EP/ OPEP) acceptance remain appropriate to reduce the consequences of the spill. This process verifies that there is a continuing net environmental benefit associated with continuing the response technique through the operational NEBA process. This process manages the environmental risks and impacts of response techniques during the spill response, an operational NEBA will be undertaken throughout the response, for each operational period.

The operational NEBA will consider the risks and benefits of conducting and response activity. For example, if vessels are required for access to nearshore or onshore areas, anchoring locations will be selected to minimise disturbance to benthic habitats. Vessel cleanliness would be commensurate with the receiving environment. The operational NEBA will consider the risks and benefits of conducting other response techniques.

The operational NEBA process is also used to terminate a response. Using data from operational and scientific monitoring activities the response to a hydrocarbon spill will be terminated in accordance with the termination process outlined in the Oil Pollution Emergency Arrangements (Australia). In effect the operational NEBA will determine whether there is net environmental benefit to continue response operations.

5.8.3 Consultation engagement process

Woodside will ensure persons/ organisations are engaged during the spill response in accordance with internal standards. This process requires that Woodside will:

- Undertake all required notifications (including government notifications) for persons/ organisations in the region (identified in the First Strike Plan). This includes notification to mariners to communicate navigational hazards introduced through response equipment and personnel.
- In the event of a response, identify and engage with relevant persons/ organisations and continually assess and review.

5.8.4 Environmental performance based on need

Table 5-13: Environmental Performance – Incident Management System

Environmental Performance Outcome		To support the effectiveness of all other control measures and monitor/record the performance levels achieved.		
Control measure		Performance Standard		Measurement Criteria (Section 5.9)
21	Operational SIMA	21.1	Confirm that the response techniques adopted at the time of acceptance remain appropriate to reduce the consequences of the spill within 24 hours.	1, 3A
		21.2	Record the evidence and justification for any deviation from the planned response activities.	
		21.3	Record the information and data from operational and scientific monitoring activities used to inform the SIMA.	
22	Stakeholder engagement	22.1	Prompt and record all notifications (including government notifications) for persons/ organisations in the region are made	
		22.2	In the event of a response, identification of relevant persons/ organisations will be re-assessed throughout the response period.	
		22.3	Undertake communications in accordance with: <ul style="list-style-type: none"> • Functional Support Team Guideline – Reputation • External Communication and Continuous Disclosure Procedure • External Stakeholder Engagement Procedure 	
23	Personnel required to support any response	23.1	Action planning is an ongoing process that involves continual review to ensure techniques to control the incident are appropriate to the situation at the time.	1, 3B
		23.2	A duty roster of trained and competent people will be maintained to ensure that minimum manning requirements are met all year round.	3C
		23.3	Immediately activate the CIMT with personnel filling one or more of the following roles: <ul style="list-style-type: none"> • CIMT Incident Commander • CIMT Deputy Incident Commander • Operations Section Chief • Planning Section Chief • Logistics Section Chief • Documentation Unit Leader • Safety Officer • Environment Unit Leader • Human Resources Officer • Public Information Officer • Situation Unit Leader • Finance Section Chief • Source Control Section Chief 	1, 2, 3B, 3C, 4
		23.4	Collect and interpret information from the scene of the incident to determine support requirements to the site-based CIMT, develop an Incident Action Plan (IAP) and assist with the execution of that plan.	

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Environmental Performance Outcome	To support the effectiveness of all other control measures and monitor/record the performance levels achieved.		
Control measure	Performance Standard		Measurement Criteria (Section 5.9)
	23.5	S&EM advisors will be integrated into CIMT to monitor performance of all functional roles.	
	23.6	Continually communicate the status of the spill and support Woodside to determine the most appropriate response by delivering on the responsibilities of their role.	
	23.7	Follow the OPEA, Operational Plans, FSPs, support plans and the IAPs developed.	1, 2, 3A, 4
	23.8	Contribute to Woodside's response in accordance with the aims and objectives set by the Incident Commander.	1, 2, 3B, 3C, 4

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5.9 Measurement criteria for all response techniques

Woodside verifies compliance with environmental performance outcomes and standards through four primary mechanisms. The aforementioned performance tables identify which of these four mechanisms monitors the readiness and records the effectiveness and performance of the control measures adopted.

1. The Incident Management System

The Incident Management System (IMS) supports the implementation of the Emergency and Crisis Management Procedure. The IMS provides a near real-time, single source of information for monitoring and recording an incident and measuring the performance of those control measures.

The Emergency and Crisis Management Procedure defines the management framework, including roles and responsibilities, to be applied to any size incident (including hydrocarbon spills). The organisational structure required to manage an incident is developed in a modular fashion and is based on the specific requirements of each incident. The structure can be scaled up or down.

The Incident Action Plan (IAP) process formally documents and communicated the:

- Incident objectives
- Status of assets
- Operational period objectives
- Response techniques (defined during response planning)
- The effectiveness of response techniques.

The information captured in the IMS (including information from personal logs and assigned tasks/close outs) confirms the response techniques implemented remain appropriate to reduce the consequences of the spill. The system also records all information and data that can be used to support the site-based IMT, development and the execution of the IAP.

2. The S&EM Competency Dashboard

The S&EM competency dashboard records the number of trained and competent responders that are available across Woodside, and some external providers, to participate in a response.

This number varies dependent on expiry of competency certificates, staff attrition, internal rotations, leave and other absences. As such the Dashboard is designed to identify the minimum manning requirements and to identify sufficient redundancy to cater for the variances listed above.

Figure 5-2 shows the minimum manning numbers for the different hydrocarbon spill response roles and the number of qualified persons against those roles.

Woodside's pool of trained responders is composed of but not limited to personnel from the following organisations:

- Woodside internal
- Australian Marine Oil Spill Centre (AMOSC) core group
- AMOSC
- Oil Spill Response Limited (OSRL)
- Marine Spill Response Corporation (MSRC)
- AMSA
- Woodside contracted workforce

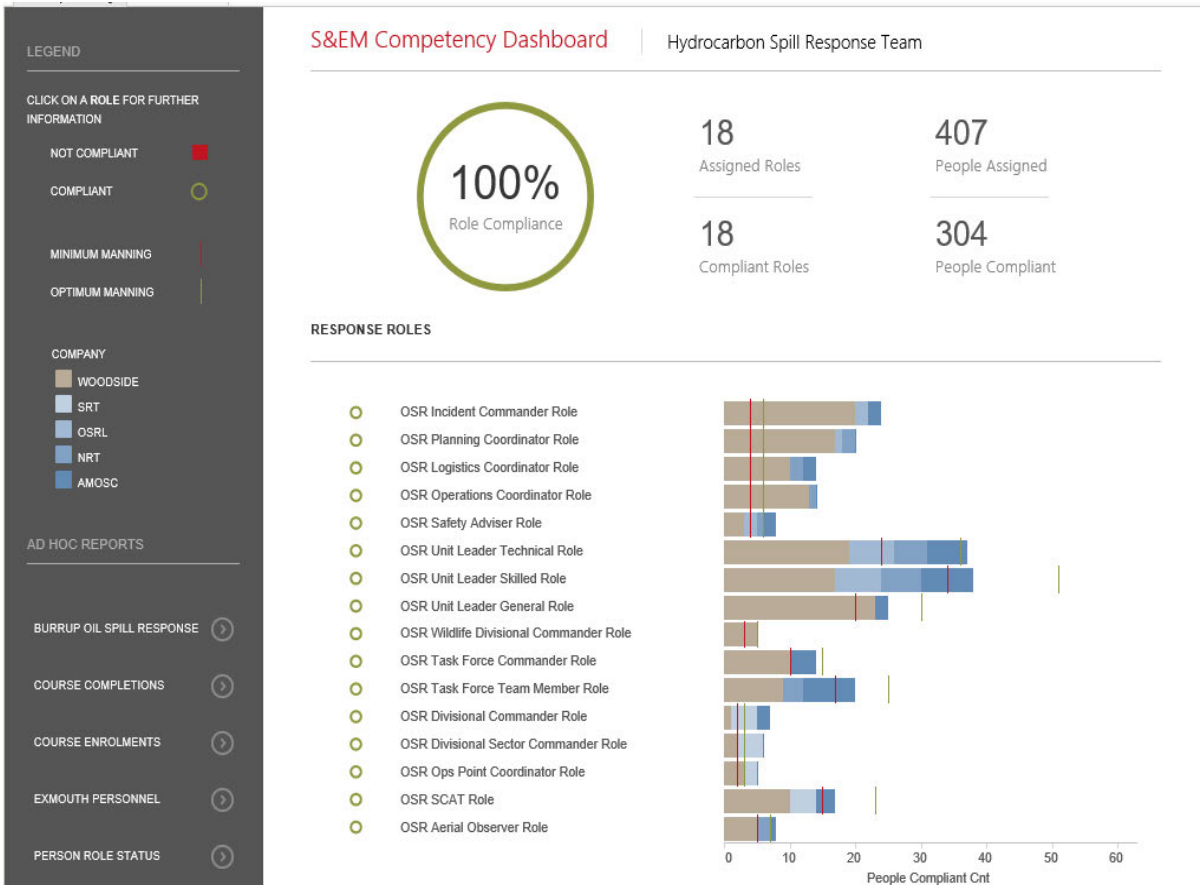


Figure 5-2: Example screen shot of the HSP competency dashboard

The Dashboard is one of Woodside’s key means of monitoring its readiness to respond. It also and shows that Woodside can meet the requirements of the environmental performance standard that relate to filling certain response roles.

Figure 5-3 shows deeper dive into the Ops Point Coordinator role and the training modules required to show competence.

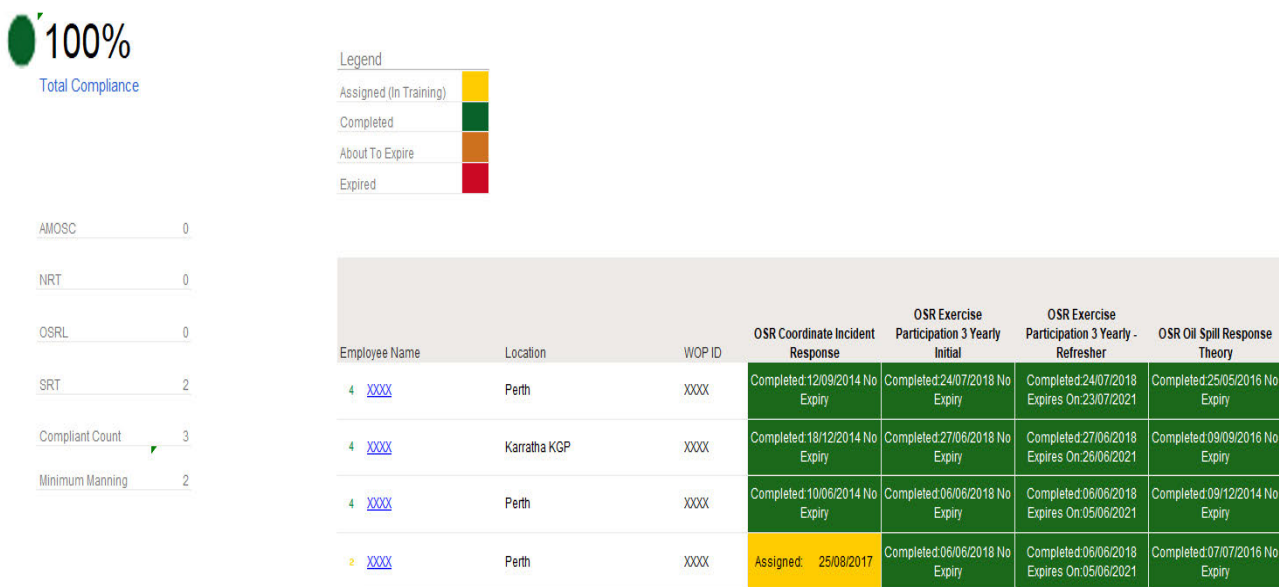


Figure 5-3: Example screen shot for the Ops Point Coordinator role

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3. The Hydrocarbon Spill Preparedness ICE Assurance Process

The Hydrocarbon Spill Response Team has developed a Hydrocarbon Spill Preparedness and Response Internal Control Environment (ICE) process to align and feed into the Woodside Management System Assurance process for hydrocarbon spill. The process tracks compliance over four key control areas:

- A. **Plans** – Ensures all plans (including: Oil Pollution Emergency Arrangements, first strike plans, operational plans, support plans and tactical response plans) are current and in line with regulatory and internal requirements.
- B. **Competency** – Ensures the competency dashboard is up to date and there are the minimum competency numbers across CIMT, CMT and hydrocarbon spill response roles. The hydrocarbon spill training plan and exercise schedule, including testing of arrangements is also tracked. The Testing of Arrangements (TOA) register tracks the testing of all hydrocarbon spill response arrangements, key contracts and agreements in place with internal and external parties to ensure compliance.
- C. **Capability** – Tracks and monitors capability that could be required in a hydrocarbon incident, including but not limited to: integrated fleet³ vessel schedule, dispersant availability, rig/vessels monitoring, equipment stockpiles, tracking buoy locations and the CIMT duty roster.
- D. **Compliance and Assurance** – Ensures all regulator inspection outcomes are actioned and closed out, the global legislation register is up to date and that the key assurance components are tracked and managed. Assurance activities (including Audits) conducted on memberships with key Oil Spill Response Organisations (OSROs) including AMOSC and OSRL are also tracked and recorded in the ICE.

The ICE assurance process records how each commitment listed in the performance tables above is managed to ensure ongoing compliance monitoring. The level of compliance can be reviewed in real time and is reported on a monthly basis through the S&EM Function.

The completion of the assurance checks (over and above the ICE process) is also applied via the Woodside Integrated Risk and Compliance System (WiRCs) and subject to the requirements of Woodside's Provide Assurance Procedure.

4. The Hydrocarbon Spill Preparedness and Response Procedure

This procedure sets out how to plan and prepare for a liquid hydrocarbon spill to the marine environment. (Note, this procedure does not apply to scenarios relating to gas releases in the marine environment).

This procedure details the:

- Requirement for an Oil Pollution Emergency Plan (OPEP) to be developed, maintained, reviewed, and approved by appropriate regulators (where applicable) including:
 - Defining how spill scenarios are developed on an activity specific basis
 - Developing and maintaining all hydrocarbon spill related plans
 - Ensuring the ongoing maintenance of training and competency for personnel
 - Developing the testing of spill response arrangements
 - Maintaining access to identified equipment and personnel.
- Planning for hydrocarbon spill response preparedness
- Accountabilities for hydrocarbon spill response preparedness

³ The Integrated fleet consists of vessels from multiple operators that have been contracted to Woodside to undertake a number of duties including hydrocarbon spill response

- Spill training requirements
- Requirements for spill exercising / testing of spill response arrangements
- Spill equipment and services requirements.

The procedure also details the roles and responsibilities of the dedicated Woodside Hydrocarbon Spill Preparedness team. This team is responsible for:

- Assuring that Woodside hydrocarbon spill responders meet competency requirements.
- Establishing the competency requirements, annual training schedule and a training register of trained personnel.
- Establishing and maintaining the total numbers of trained personnel required to provide an effective response to any hydrocarbon spill incident.
- Ensuring equipment and services contracts are maintained
- Establishing OPEPs
- Establishing OPEAs
- Priority response receptor determination
- ALARP determination
- Ensuring compliance and assurance is undertaken in accordance with external and internal requirements

6 ALARP EVALUATION

This Section should be read in conjunction with Section 5 which is the capability planned for this activity.

6.1 Operational Monitoring – ALARP Assessment

Alternative, Additional and Improved options have been identified and assessed against the base capability described in Section 5 with those that have been selected for implementation highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.1.1 Operational Monitoring – Control Measure Options Analysis

6.1.1.1 Alternative Control Measures

Alternative Control Measures considered					
<i>Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Aerostat (or similar inflatable observation platform) for localised aerial surveillance.	Lead time to Aerostat surveillance is disproportionate to the environmental benefit. The system also provides a very limited field of visibility around the vessel it is deployed from.	Long lead time to access (>10 days). Each system would require an operator to interpret data and direct vessels accordingly. Requires multiple systems for shoreline use.	Purchase cost per system approx. \$300,000.	This option is not adopted as the minimal environmental benefit gained is disproportionate to the cost and complexity of its implementation.	No
Use of Autonomous Underwater Vehicles (AUVs) for hydrocarbon presence and detection.	Use of AUVs may be feasible and may provide an environmental benefit in assessing inaccessible areas for presence of hydrocarbons in the water however cost of purchase is disproportionate to the environmental benefit when compared to the monitoring types in place.	AUVs may be considered as an additional method of monitoring, should remote systems be required for health and safety reasons.	Cost \$10,000 for mobilisation and \$15,000 a day when deployed.	This option is not adopted as the current capability meets the need, but additional units are available if required..	No

6.1.1.2 Additional Control Measures

Additional Control Measures considered					
<i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Additional personnel trained to use systems.	Current arrangement provides an environmental benefit in the availability of trained personnel facilitating access to monitoring data used to inform all other response techniques. No improvement required.	No improvement can be made, all personnel in technical roles e.g. intelligence unit are trained and competent on the software systems. Personnel are trained and exercised regularly. Use of the software and systems forms part of regular work assignments and projects.	Cost for training in-house staff would be approx. \$25,000.	This option is not adopted as the current capability meets the need.	No
Additional satellite tracking buoys to enable greater area coverage.	Increased capability does not provide an environmental benefit compared to the disproportionate cost in having an additional contract in place.	Tracking buoy on location at manned facility, additional needs are met from WEL owned stocks in King Bay Support Facility (KBSF) and Exmouth or can be provided by service provider.	Cost for an additional satellite tracking buoy would be \$200 per day or \$6,000 to purchase.	This option is not adopted as the current capability meets the need, but additional units are available if required.	No
Additional trained aerial observers.	Current capability meets need. WEL has access to a pool of trained, competent observers at strategic locations to ensure timely and sustainable response. Additional observers are available through current contracts with AMOSC and OSRL.	Current capability meets need. WEL has a pool of trained, competent observers at strategic locations to ensure timely and sustainable response. Additional observers are available through current contracts with AMOSC and OSRL Aviation standards & guidelines ensure all aircraft crews are competent for their roles. WEL maintains a pool of trained and competent aerial observers with various home base locations to be called upon at the time of an incident. Regular audits of oil spill response organisations ensure training and competency is maintained.	Cost for additional trained aerial observers would be \$2,000 per person per day.	This option is not adopted as the current capability meets the need, but additional observers are available via response contractors if required.	No

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6.1.1.3 Improved Control Measures

Improved Control Measures considered					
Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Faster turnaround time from modelling contractor.	Improved control measure does not provide an environmental benefit compared to the disproportionate cost in having an additional contract in place.	External contractor on CIMT roster to be called as soon as required. However initial information needs to be gathered by CIMT team to request an accurate model. External contractor has person on call to respond from their own location.	Modelling service with a faster activation time would be achieved via membership of an alternative modelling service at an annual cost of \$50,000 for 24hr access plus an initial \$5,000 per modelling run.	This option is not adopted as the minimal environmental benefit gained is disproportionate to the cost and complexity of its implementation.	No
Night time aerial surveillance.	The risk of undertaking the aerial observations at night is disproportionate to the limited environmental benefit. The images would be of low quality and as such the variable is not adopted.	Flights will only occur when deemed safe by the pilot. The risk of night operations, is disproportionate to the benefit gained, as images from sensors (IR, UV, etc). will be low quality. Flight time limitations will be adhered to.	No improvement can be made without risk to personnel health and safety and breaching Woodside's golden rules.	This option is not adopted as the safety considerations outweigh any environmental benefit gained.	No
Faster mobilisation time (for water quality monitoring).	Due to the restriction on accessing the spill location on Day one there is no environmental benefit in having vessels available from day one. The cost of having dedicated equipment and personnel is disproportionate to the environmental benefit. The availability of vessels and personnel meets the response need. Shortening the timeframes for vessel availability would require dedicated response vessels on standby in KBSF. The cost and organisational complexity of employing two dedicated response vessels (approximately \$15M/year per vessel) is considered disproportionate to the potential environmental benefit to be realised by adopting this delivery options.	Operations are not feasible on day 1 as the hydrocarbon will take time to surface, and Volatility has potential to cause health concerns within the first 24 hours of the response.	Further to the standby vessel costs, purchase of required equipment would be approximately \$200,000. Ongoing costs per annum for hire and pre-positioning, for life of asset/ activity, would be larger than the purchase cost. For the associated dedicated equipment plus personnel living locally on short-notice mobilisation, the cost would be approximately \$1M per annum, which is disproportionate to the incremental benefit this would provide. Assets are already available on day one. Two integrated fleet vessels are available from day one, however these could be tasked with other operations.	This option is not adopted as the area could not be accessed earlier due to safety considerations. Additionally, the cost and complexity of implementation outweighs the benefits.	No

6.1.2 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- Alternative
 - None selected
- Additional
 - None selected
- Improved
 - None selected

6.2 Source Control – ALARP Assessment

Woodside has based its response planning on the worst-case credible scenarios (as described in Section 2.2). This includes the following selection of source control and well intervention techniques which would be initiated concurrently:

- ROV intervention
- debris clearance and/or removal
- capping stack deployment
- relief well drilling

6.2.1 ROV Intervention

Following confirmation of an emergency event, Woodside would mobilise inspection class ROVs to assess the status of the wellhead. Woodside estimates the ROV available on the MODU can be deployed for this purpose within 48 hours. Work class ROVs for well intervention are also available through the existing frame agreements and are available for deployment within seven days (Table 6-1). It is not expected that any additional regulatory approvals would be required as inspection, maintenance and repair is within the scope of activities for the *Woodside Energy Ltd Well Construction Campaign (2023-2024) Safety Case* as well as the scope of activities for contracted Frame Agreement vessels.

As Woodside holds Frame Agreements for vessels along with contracts for ROV providers and pilots, inspection activities using ROVs are expected to commence within seven days.

A hydraulic accumulator contained as part of the SFRT can be mobilised and deployed with well intervention attempted within 11 days.

Table 6-1: ROV timings

ROV inspection duration for Scarborough Wells	Time Estimate (days)
Source and mobilise vessel with work class ROV	2 days
Liaise with Regulator regarding risks and impacts*	4 days
Undertake ROV Inspection	1 day
TOTAL	7 days*

* Based on timings from the Report into the Montara Commission of Enquiry, submission and discussion of revised documentation for limited activities inside the Petroleum Safety Zone (water deluge operations) to manage personnel risks and impacts was up to 20 days.

6.2.1.1 Safety Case Considerations

Woodside has assessed against the NOPSEMA safety case guidance (NOPSEMA N-09000-GN1661), confirming that vessels conducting subsea intervention operations are not classified as an “associated offshore place” but as a facility and therefore require the appropriate Safety Case arrangements to be in place. In the event of an emergency, Woodside has access to suitable vessels (ISVs) for well intervention through existing frame agreements. The frame agreements for ISV vessels require the vessels to maintain in-force safety case approval covering a range of subsea activities. This would cover the requirement for intervention operations such as subsea manifold installation, maintenance and repair, commissioning, cargo transfer (including bulk liquids) and ROV operations. With frame agreements in place, the credible Safety Case Scenario from those presented in Figure 6-3 for implementing this response would be “no safety case revision required”. Timeframes for well intervention are detailed in Figure 6-2 and would be implemented concurrently

to the actions required by the “no Safety Case” revision scenario detailed in **Figure 6-3**, therefore, the Safety Case scenario will have no impact on the delivery of the strategy.

6.2.2 Debris clearance and/or removal

The Woodside Source Control Emergency Response Planning Guideline details the mobilisation and resource requirements for implementing this strategy. Debris clearance may be required as a prerequisite to deployment of the capping stack. The AMOSC SFRT would be mobilised from Fremantle. The mobilisation of the SFRT would take place in parallel with mobilisation of the capping stack to ensure initial ROV surveys and debris clearance have commenced before the arrival of the capping stack. The SFRT comprises ROV-deployed cutters and tools that are used to remove damaged or redundant items from the wellhead and allow improved access to the well. The SFRT can be mobilised and deployed with well intervention attempted within 11 days.

6.2.2.1 Safety Case considerations

Woodside has assessed against the NOPSEMA safety case guidance (NOPSEMA N-09000-GN1661) and anticipates that vessels conducting debris clearance and removal operations are not classified as an “associated offshore place” but as a facility and therefore require the appropriate Safety Case arrangements in place. In the event of an emergency, Woodside has access to suitable ISVs for these operations through existing frame agreements. The frame agreements for ISVs require the vessels to maintain in-force safety case approval covering a range of subsea activities. This would cover the requirement for debris clearance and removal operations such as subsea manifold installation, commissioning, cargo transfer (including bulk liquids) and ROV operations. With frame agreements in place, the credible Safety Case Scenario, from those presented in **Figure 6-3** for implementing this response would be “no safety case revision required”. Timeframes for debris clearance and removal equipment deployment are detailed in **Figure 6-2** and would be implemented concurrently to the actions required by the “No Safety Case” revision scenario detailed in **Figure 6-3**, therefore, the Safety Case scenario will have no impact on the delivery of the strategy.

6.2.3 Capping stack

The Woodside Source Control Emergency Response Planning Guideline details the mobilisation and resource requirements for implementing this strategy. 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.

Woodside assumes that sourcing conventional capping stack deployment vessels would be per the Source Control Emergency Response Planning Guideline. This plan has pre-identified vessel specifications for the capping stack deployment and Woodside monitors the availability and location of these vessels on a monthly basis. Woodside maintain several frame agreements with various vessel service providers and maintains the ability to call off services with a capping stack and debris clearance agreement. The location of suitable vessels for capping stack deployment are monitored monthly. The supply arrangements and reliability to achieve the required mobilisation time will be revalidated prior to spud. Consideration to mobilise the capping stack from the supplier on a suitable vessel but then hand over to another vessel to conduct the capping activity will also be made to meet response time frames.

A capping stack will be mobilised to site within 16 days. Woodside will monitor the conditions around the wellsite and deployment for well intervention attempt will be undertaken once safety and metocean conditions are suitable.

6.2.3.1 Safety Case considerations

Woodside has assessed against the NOPSEMA safety case guidance (NOPSEMA N-09000-GN1661) and anticipates that vessels conducting capping stack are not classified as an “associated offshore place” but as a facility and therefore require the appropriate Safety Case arrangements in place.

The timeframe to mobilise the vessel is based on the following assumptions:

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- existing frame agreement vessel, located outside the region with approved Australian Safety Case
- a safety case revision and scope of validation is required vessel has an active heave compensated crane, rated to at least 150 T in shallower water and 250 T in deeper water, and at least 90 m in length and a deck capacity to hold at least 110 T of capping stack.

Timeframes for capping stack deployment detailed in **Figure 6-2** would be implemented concurrently with the actions required for the Safety Case revision development scenarios detailed in **Figure 6-3** and **Table 6-3**. To reduce uncertainty in regulatory approval timeframe, Woodside is collaborating with The Drilling Industry Steering Committee (DISC) and a contracted ISV Vessel Operator to develop a generic Safety Case Revision that contemplates a capping stack deployment. This Safety Case Revision will be used to reduce uncertainty in permissioning timeframes in the event a capping stack deployment is required. Woodside intends to execute the capping stack response in the fastest possible timeframe, provided the required safety and metocean conditions allow. Woodside has considered a broad range of alternate, additional, and improved options as outlined later in Section 6.3.5.

6.2.4 Relief Well drilling

The options analysis detailed in this section considers options to source, contract and mobilise a MODU or MODUs and ensure necessary regulatory approvals are in place to meet timelines for relief well drilling. The screening for relief well drilling MODUs is based on the following and the process used for Scarborough is illustrated in **Figure 6-1**:

- Primary – review internal Woodside drilling programs and MODU availability to source appropriate rig(s) operating within Australia with an approved Safety Case.
- Alternate – source and contract a MODU through AEP MoU that is operating within Australia with an approved Safety Case.
- Contingency – Source and contract a MODU outside Australia with an approved Australian Safety Case.

For the worst-case discharge scenario modelled, an additional MODU, subsea well kill spools and hoses is required to provide pumping assistance to the primary relief well drilling rig. The MODU will be obtained per the above hierarchy.

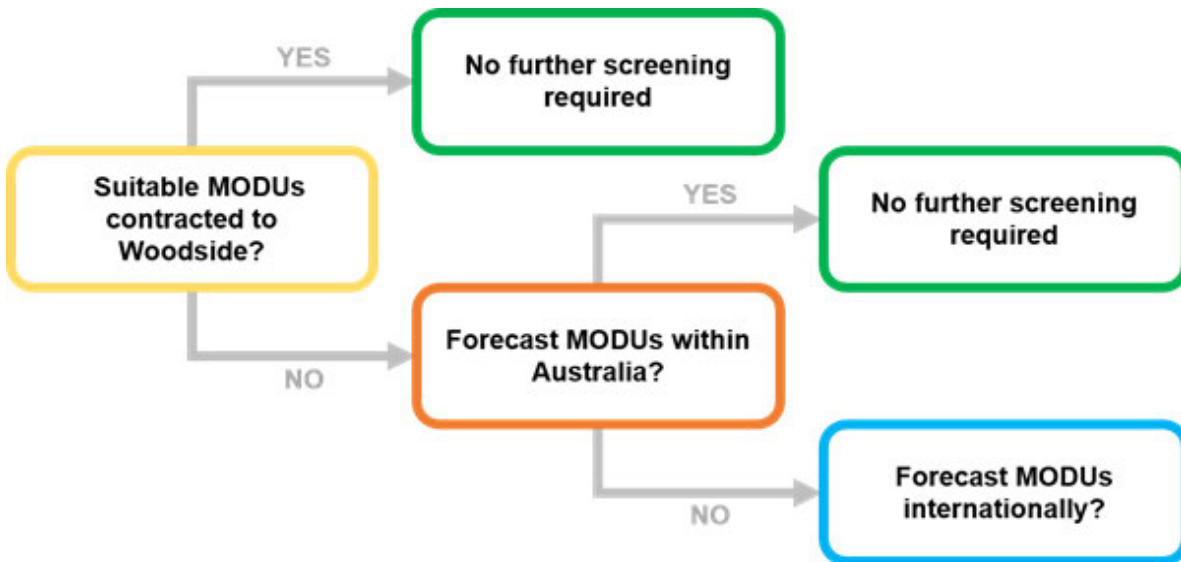


Figure 6-1: Process for sourcing relief well MODU

Screening of a relief well MODU from international waters is undertaken only if required, i.e. there is low confidence in local (Australian) availability. The screening of relief well MODUs is undertaken

and presented at a well design stage peer assessment. The capability, location and Australian Safety Case status is assessed for each Woodside contracted MODU. In the event the Woodside contracted MODUs are unsuitable, screening is extended to all MODUs operating in Australian Waters. The suitability and location of pre-identified relief well MODUs is tested again prior to the operation. Though the AEP MoU will serve as the instrument to facilitate the transfer of drilling units and well site services between operators in the event of an emergency, Woodside will engage each of the identified titleholders in advance to maintain confidence in MODU suitability and availability.

Based on the detail provided, the Primary and Alternate approaches are expected to be achieved within the estimated mobilisation period.

The internal and external availability of moored and DP MODUs, plus rig activities of registered operators and rigs with approved safety cases, are tracked by Woodside on a monthly basis, with a two-year look ahead, to ensure that the best available option can be sourced and utilised in the event of the worst-case credible scenario.

If the above forecast indicates a gap in availability of a suitable MODU for relief well drilling within Australia, screening would be extended to MODUs with a valid safety case outside Australia. If an international MODU with an Australian safety case is not identified, an internal review will be undertaken, NOPSEMA notified and the issue tabled at the AEP Drilling Industry Safety Committee. A review of the significance of the change in risk will be undertaken in accordance with Woodside's environment management of change requirements and relevant regulatory triggers. The aforementioned lookahead timeframe would allow two years' warning of any potential gap. Woodside will execute relief well drilling in the fastest possible timeframe.

The detail of these arrangements demonstrates that the risks have been reduced to ALARP and Acceptable levels through the control measures and performance standards outlined in Section 5.2.

6.2.4.1 Relief Well drilling timings

The duration of a blowout (from initiation to a successful kill) is assessed as 69 days. The Macedon operational wells are very similar in their lengths, depths and casings. The wells with the worst-case discharge rates were modelled for relief well planning.

Details on the steps and time required to drill a relief well is shown in **Table 6-2** below. Moored MODUs are suitable for a Macedon relief well.

To validate the effectiveness of the relief MODU supply arrangements through the AEP MoU, an exercise to test the mobilisation period forms part of Woodside's three-yearly Hydrocarbon Spill Arrangements Testing Schedule. Testing of these arrangements are facilitated by an external party and includes suspension of the assisting operator's activities, contracting the MODU, vessel safety case revision and transit to location.

Table 6-2: Relief well drilling timings

Estimated Relief Well Duration		Days (moored MODU)
1	Issue notifications, suspend operations and secure well on rig of opportunity. Prepare for transit.	7.0
2	<i>Preparation for regulatory documents for submission and assemble technical team</i>	7.0 <i>(concurrent with preceding step)</i>
3	Concurrent regulatory approval works	30.0
4	<i>Tow relief well rig to location (high case assumes MODU is outside of local region)</i>	7.0 to 29.0 <i>(concurrent with preceding steps)</i>
5	Drill relief well to intercept point (9-5/8" casing shoe)	17.0
6	Intercept the original well and perform well kill (assumes three failed intersection attempts, each followed by pull-back and side-track, with successful intersection on fourth attempt)	15.0
TOTAL		69

Woodside has considered a broad range of alternate, additional, and improved options as outlined in Section 6.2.5.

Intersect and kill duration is estimated at 15.0 days. This is a moderately conservative estimate. During the intersect process, the relief well will be incrementally drilled and logged to accurately approach and locate the existing well bore. This will result in the highest probability of intersecting the well on the first attempt and thus will reduce the overall time to kill the well. During the Montara incident, it took five attempts to achieve a successful intersect.

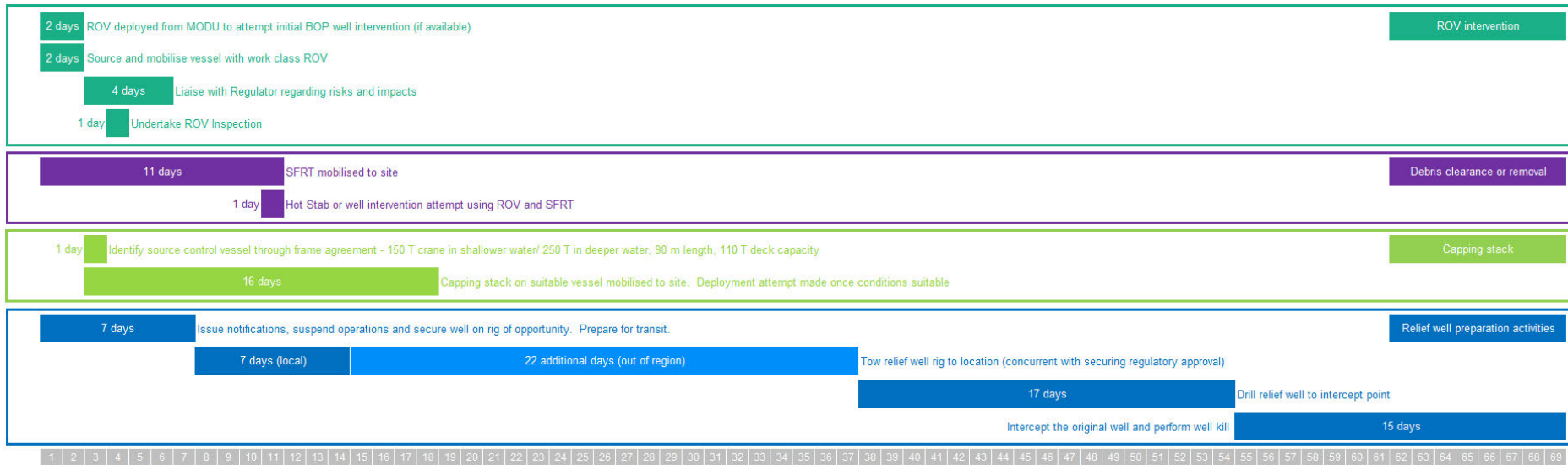


Figure 6-2: Source control and well intervention response strategy deployment timeframes for Macedon operational wells

6.2.4.2 Safety Case considerations

Woodside recognises that it will not be the Operator or holder of the Safety Case for the MODU and/or vessels involved in relief well activities. In the event that a revision to the Operator's Safety Case is required for relief well drilling, Woodside has identified measures to ensure timely response and optimise preparedness as far as practicable that can be undertaken to expedite a straightforward Safety Case revision for a MODU/ vessel to commence drilling a relief well. Performance standards associated with these measures have been included in Section 5.2.

These include;

- Access to Safety and Risk discipline personnel with specialist knowledge.
- Monitoring internal and external rigs and vessel availability in the region and extended area through contracted arrangements on a monthly basis, with a two-year lookahead.
- Prioritisation of rigs/vessels with current or historical contracting arrangements. Woodside maintains records of previous contracting arrangements and companies. All current contracts for vessels and rigs are required to support Woodside in the event of an emergency.
- Leverage mutual aid arrangements such as the AEP MoU for vessel and rig support.
- Woodside Planning and Logistics, and Safety Officers (on-Roster/Call 24/7) which can articulate need for, and deliver Woodside support, in key delivery tasks including sitting with potential outside operators.
- Ongoing strategic industry engagement and collaboration with NOPSEMA to work toward time reductions in regulatory approvals for emergency events.

Woodside has identified three safety case revision development and submission scenarios for a MODU and plotted these alongside the relief well preparation activities in Figure 6-3. The assumptions for each of the cases are detailed in subsequent Table 6-3.

The MODUs screened for contingency relief well drilling all operate under an Accepted base Safety Case. A relief well Safety Case Revision would leverage the previously accepted Safety Case Revision for the PAP, including the associated site-specific well hazards. As such, there is less new detail for the regulator to review and should present a short review timeframe with no impact expected to the commencement of relief well drilling activities.

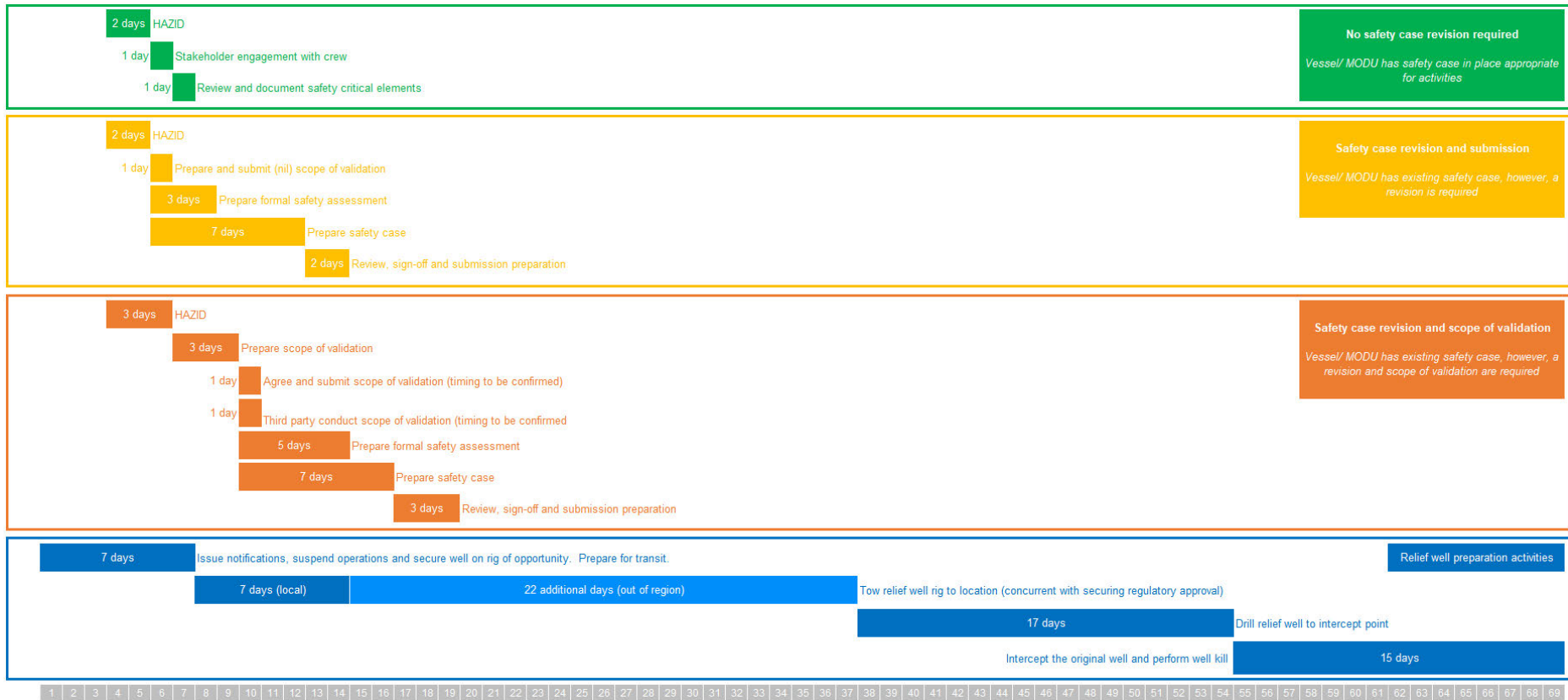


Figure 6-3: Timeline showing safety case revision timings alongside other relief well preparation activity timings for Macedon Operational Wells

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Table 6-3: Safety Case revision conditions and assumptions

Case	No safety case revision required	Safety case revision and submission	Safety case revision and scope of validation
Description	Vessel/MODU has a safety case in place appropriate for activities.	Vessel/MODU has an existing safety case, however, a revision is required.	Vessel/MODU has an existing safety case, however, a revision is required plus scope of validation.
Conditions/assumptions	<ul style="list-style-type: none"> Assumes that existing vessel/MODU safety case covers working under the same conditions or the loss of containment is not severe enough to result in any risk on the sea surface. 	<ul style="list-style-type: none"> Safety case timing assumes vessel/MODU selected and crew and available for workshops and safety case studies. 	<ul style="list-style-type: none"> Safety case timing assumes vessel/MODU selected and crew and available for workshops and safety case studies.
		<ul style="list-style-type: none"> Assumes nil scope of validation. This assumes that the vessel for subsea dispersant injection allows for working in a hydrocarbon environment and control measures are already in place in the existing safety case. For MODU, it assumes that the relief well equipment is already part of the MODU facility and MODU safety case. 	<ul style="list-style-type: none"> Validation will be required for new facilities only. The time needed for the validator to complete the review (from the last document received) and prepare validation statement is undetermined. This is not accounted for here as the safety case submission is not dependent on the validation statement, however the safety case acceptance is.
		<ul style="list-style-type: none"> Assumes safety case preparation is undertaken 24/7. 	<ul style="list-style-type: none"> Assumes safety case preparation is undertaken 24/7.

6.2.5 Source Control – Control Measure Options Analysis

6.2.5.1 Alternative Control Measures

Alternative Control Measures Considered					
Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control					
Option considered	Feasibility	Environmental benefits/impacts	Approximate cost	Assessment conclusions	Implemented
Standby MODU shared for all Woodside activities	A standby MODU shared across all Woodside activities is likely to provide a moderate environmental benefit as it may reduce the 21-day sourcing, contracting and mobilisation time by up to 10 days (to 11 days). This would reduce the volume and duration of release and may reduce impacts on receptors and sensitivities.	This option is not considered feasible for all Woodside activities as there are a large range of well depths, complexities, geologies and geophysical properties across all Woodside's operations. The large geographic area of Woodside activities also means that the MODU is unlikely to be in the correct location at the right time when required.	Even with costs shared across Woodside operations, the costs (approximately A\$219 m per annum, A\$1.95 b over the five years) of maintaining a shared MODU are considered disproportionate to the environmental benefit potentially achieved by reducing mobilisation times by up to 10 days.	The costs and complexity of having a MODU and maintaining this arrangement for the duration of the Petroleum Activities Program are disproportionate to the environmental benefit gained above finding a MODU through the MoU agreement for all spill scenarios.	No
Standby MODU shared across AEP MoU Titleholders	A standby MODU shared across all titleholders who are signatories to the AEP MoU is likely to provide a minor environmental benefit as it may reduce the 21-day sourcing, contracting and mobilisation time by up to seven days (to 14 days). This would reduce the volume and duration of release and may reduce impacts on receptors and sensitivities.	This option is not considered feasible for a number of Titleholders due to the remote distances in Australia as well as a substantial range of well depths, types, complexities, geologies and geophysical properties across a range of Titleholders	As the environmental benefit is only considered minor and the reduction in timing would only be for the mobilisation period (reduction from 21 days to 14 days) the costs are considered disproportionate to the minor benefit gained.	The costs and complexity of having a MODU and maintaining a shared arrangement for the duration of the Petroleum Activities Program are disproportionate to the environmental benefit gained above finding a MODU through the MoU agreement for all spill scenarios.	No

6.2.5.2 Additional Control Measures

Additional Control Measures considered					
Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures					
Option considered	Environmental consideration	Feasibility	Approximate cost	Assessment conclusions	Implemented
Implement and maintain minimum standards for Safety Case development	Woodside's contingency planning consideration would be to source rigs from outside Australia with an existing Safety Case. This would require development and approval of a safety case revision for the rigs and activities prior to commencing well kill operations.	<ul style="list-style-type: none"> This option is considered feasible and would require Woodside to develop minimum standards for safe operations for relevant Safety Case input along with maintaining key resources to support review of Safety Cases. Woodside would not be the operator for relief well drilling and would therefore not develop or submit the Safety Case revision. Woodside's role as Titleholder would be to provide minimum standard for safe operations that MODU operators would be required to meet and/or exceed. 	Woodside has outlined control measures and performance standards regarding template Safety Case documentation and maintenance of resources and capability for expedited Safety Case review.	This option has been selected based on its feasibility, low cost and the potential environmental benefits it would provide.	Yes
Offset capping alternative to conventional capping stack deployment	While the use of an offset capping system could reduce the quantity of hydrocarbon entering the marine environment, the mobilisation lead times for both a cap and required vessels/ support equipment, would minimise any environmental benefit gained over conventional capping.	<ul style="list-style-type: none"> The base case considerations for offset installation equipment (OIE) requires a coordinated response by 4 to 7 vessels working simultaneously outside of the 500m exclusion zone introducing complex SIMOPS issues. Due to the OIE's size and scale, fabrication of equipment, e.g. mooring anchors, outside of the contractor's scope of supply is likely to require engagement of international suppliers, further increasing complexity and uncertainty in associated time frames. 	Due to risks, uncertainty and complexity of this option, and the inability to realise any environmental gains, any cost would be disproportionate to the benefits gained over conventional capping.	<p>Woodside has confidence in availability of suitable relief well MODUs across the required drilling time frame thus the OIE would provide no advantage.</p> <p>Implementation of OIE has been assessed as a highly complex SIMOPs operation.</p> <p>Implementation of a novel technology such as OIE culminates in low certainty of success while at the same</p>	No

		<ul style="list-style-type: none"> Screening indicates that mobilising some components of the OIE, based in Italy, can only be done so by sea and is likely to erode any time savings realised through killing the well via a relief well. The March 2019 OSRL exercise in Europe tested deployment of the OIE and highlighted that it will require a >600 T crane vessel for deployment to ensure there is useable hook height for the crane to conduct the lift of the carrier. Vessels with such capability and a current Australian vessel safety case are not locally or readily available. 		<p>time increasing associated health and safety risks.</p> <p>As such the primary source control response and ALARP position remain conventional capping and drilling a relief well.</p>	
Dual vessel capping stack deployment	While the use of dual vessel to deploy the capping system could reduce the quantity of hydrocarbon entering the marine environment, this is an unproven technology. Additionally, the feasibility issues surrounding a dual vessel capping deployment together with mobilisation lead times for both a cap and required vessels and support equipment, would minimise any environmental benefit gained over conventional capping.	A dual vessel deployment is somewhat feasible provided a large enough deck barge can be located. Deck barges of 120 m are not, however, very common and will present a logistical challenge to identify and relocate to the region. Further, the longer-length barges may need mooring assist to remain centred over the well. The capping stack would be handed off from a crane vessel to the anchor handler vessel (AHV) work wire outside of the exclusion zone. The AHV would then manoeuvre the barge into the plume to get the capping stack over the well. In this method, the barge would be in the plume, but the AHV and all personnel would be able to maintain a safe position outside of the gas zone. The capping stack would actually be lowered on the AHV work wire so a crane would not be required on the barge.	Due to there being minimal environmental benefits gained by the prolonged lead times needed to execute this technique, plus a potential increase in safety issues, any cost would be disproportionate to the benefits gained over conventional capping.	Given there is minimal environmental benefit and an increase in safety issues surrounding SIMOPS and deployment in shallow waters, this option would not provide an environmental or safety benefit.	No
Subsea containment system alternative to capping stack deployment	While the use of a subsea containment system could reduce the quantity of hydrocarbon entering the marine environment, this is an unproven technology. Additionally, the system is unlikely to be feasibly deployed and activated for at least 90 days following a blowout due to equipment requirements and logistics. No environmental benefit is therefore predicted given the release duration is 69 days before drilling of a relief well under the adopted control measure.	The timing for mobilisation, deployment and activation of the subsea containment system is likely to be >90 days which is longer than the expected 69 days relief well drilling operations based on the location, size and scale of the equipment required, including seabed piles that can only be transported by vessel.	Woodside has investigated the logistics of reducing this timeframe by pre-positioning equipment but the costs of purchasing dedicated equipment by Woodside for this Petroleum Activities Program is not considered reasonably practical and are considered disproportionate to the environmental benefit gained.	This option would not provide an environmental benefit due to the long mobilisation lead time.	No
Pre-drilling (relief well) top-holes	This option represents additional environmental impacts associated with discharge of additional drill cuttings and fluids along with benthic habitat disturbance. It is also not expected to result in a significant decrease in relief well timings	This option is not considered feasible due to the uncertainties related to the location and trajectory of the intervention well, which may vary according to the actual conditions at the time the loss of containment event occurs. Additionally, there is only expected to be a minor reduction in timing for this option of 1-2 days based on the drilling schedule. Duration to drill and kill may be reduced by 1-2 days, but top-hole may have to be relocated, due to location being unsafe or unsuitable and further works will	Utilising an existing MODU and pre-drilling top-hole for relief well commencement would significantly increase costs associated the Petroleum Activities Program. Estimated cost over the program's life is approx. A\$555,000 per day over the PAP based on 2-4 days of top-hole drilling (plus standby time) for the well as the worst-case scenario.	This option would not provide an environmental benefit due to the additional environmental impacts coupled with a lack of improved relief well timings.	No

		be required each year to maintain the top holes.			
Purchase and maintain mooring system	Purchasing and maintaining a mooring system could provide a moderate environmental benefit as it may reduce equipment sourcing time. However, due to the continued need for specialists to install the equipment plus sourcing a suitable vessel, the timeframe reduction would be minimal.	Woodside is not a specialist in installing and maintaining moorings so would require specialists to come in to install the moorings and would also require specialist vessels to be sourced to undertake the work.	The cost of purchasing, storing and maintaining pre-lay mooring systems with anchors, chains, buoys and ancillary equipment is considered disproportionate to the environmental benefit gained.	This option would not provide an environmental benefit as timeframe reductions would be minimal.	No
Contract in place with WWCI and Oceaneering	Woodside has an agreement in place with WWCI and Oceaneering to provide trained personnel in the event of an incident. This will ensure that competent personnel are available in the shortest possible timeframe.	Having contracts in place to access trained, competent personnel in the event of an incident would reduce mobilisation times. This option is considered reasonably practicable.	Minimal cost implications – Woodside has standing contract in place to provide assistance across all activities.	This control measure is adopted as the costs and complexity are not considered disproportionate to any environmental benefit that might be realised.	Yes

6.2.5.3 Improved Control Measures

Improved control measures Considered

Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility

Option considered	Feasibility	Environmental benefits/impacts	Approximate cost	Assessment conclusions	Implemented
Monitor internal drilling programs for rig availability	Woodside may be conducting other campaigns that overlap with the Petroleum Activities Program, potentially providing availability of relief well drilling rigs within Woodside. The environmental benefit of monitoring other drilling programs internally is that Woodside would be in a position to understand which other rigs might be rapidly available for relief well operations if required, potentially reducing the time to drill the relief well, resulting in less hydrocarbon to the environment.	Woodside monitors vessel and MODU availability through market intelligence services for location. Woodside will continually monitor other drilling and exploration activities within Australia and as available throughout the region to track rigs and explore rig availability during well intervention operations.	Associated cost of implementation is minimal to the environmental benefit gained. Woodside has outlined control measures and performance standards.	This option is a low-cost control measure with potential to reduce the volume of hydrocarbon released to the environment.	Yes
Monitor external activity for rig availability	The environmental benefit achieved by monitoring drilling programs and rig movements across industry provides the potential for increased availability of suitable rigs for relief well drilling. Additional discussions with other Petroleum Titleholders may be undertaken to potentially gain faster access to a rig and reduce the time taken to kill the well and therefore volume of hydrocarbons released.	Woodside will source relief well drilling rigs in accordance with the AEP MoU on rig sharing in the unlikely event this is required. Commercial and operational provisions do not allow Woodside to discuss current and potential drilling programs in detail with other Petroleum Titleholders.	Associated cost of implementation is moderate to the environmental benefit gained. Woodside will continually engage with other Titleholders and Operators regarding activities within Australia and as available throughout the region to track rigs and explore rig availability during well intervention operations.	This option is a low-cost control measure with potential to reduce the volume of hydrocarbon released to the environment.	Yes
Monitor status of Registered Operators / Approved Safety cases for rigs	Woodside can monitor the status of Registered Operators for rigs operating within Australia (and therefore safety case status) on a monthly basis. This allows for a prioritised selection of rigs in the event of a response with priority given to those with an existing safety case.	The environmental benefit of monitoring other drilling programs internally is that Woodside would be in a position to understand which other rigs might be rapidly available for relief well operations if required, potentially reducing the time to drill the relief well, resulting in less hydrocarbon to the environment.	The cost is minimal.	This option is a low-cost control measure with potential to reduce the volume of hydrocarbon released to the environment.	Yes
Maintaining relief well drilling supplies	There is not predicted to be any reduction in relief well timing or spill duration from Woodside maintaining stocks of drilling supplies (mud, casing, cement, etc.)	It would be feasible to source some relief well drilling supplies such as casing but the actual composition of the cement and mud required will need to be specific to the well. This option is also not deemed necessary as the lead time for sourcing and mobilising	The capital cost of Woodside purchasing relevant drilling supplies is expected to be approximately A\$600,000 with additional costs for storage and ongoing costs for replenishment. These costs are considered disproportionate to the environmental benefit gained.	This option would not provide an environmental benefit as the specific required relief well drilling supplies could only be determined at the time of a spill event. Additionally, sourcing these supplies is already included in the relief well drilling timeframe.	No

		these supplies is included in the 21 days for sourcing and mobilising a rig.			
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6.2.6 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- Alternative
 - None selected
- Additional
 - Implement and maintain minimum standards for Safety Case development
 - Contract in place with WWCI and Oceaneering to supply trained, competent personnel
- Improved
 - Monitor internal drilling programs for MODU availability
 - Monitor external activity for MODU availability
 - Monitor status of registered operators / approved safety cases for MODUs

6.3 Source Control via Vessel SOPEP – ALARP Assessment

Alternative, Additional and Improved options have been assessed against the base capability described in Section 5 with those that have been selected for implementation highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.3.1 Source Control via Vessel SOPEP – Control Measure Options Analysis

6.3.1.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical alternative control measures identified					

6.3.1.2 Additional Control Measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical additional control measures identified					

6.3.1.3 Improved Control Measures

Improved Control Measures considered <i>Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical improved control measures identified					

6.3.2 Selected control measures

Following review of alternative, additional and improved control measures, the following controls were selected for implementation for the PAP.

- Alternative
 - None selected
- Additional
 - None selected
- Improved
 - None selected

6.4 Shoreline Protection and Deflection – ALARP Assessment

Alternative, Additional and Improved options have been identified and assessed against the base capability described in Section 5 with those that have been selected for implementation highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.4.1 Existing Capability – Shoreline Protection and Deflection

Woodside’s exiting level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/vessel/aircraft/vehicle location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside’s direct control.

6.4.2 Response Planning: Macedon Operations (Cwth) – Shoreline Protection and Deflection

Planning for shoreline protection is based upon identification of Response Protection Areas (RPAs) from deterministic modelling and the logistics associated with deploying protection at these locations. The response planning scenarios indicate that this would require effective mobilisation to priority shorelines and maintenance of protection until operational monitoring confirms that the locations were no longer at risk. Woodside has identified the RPAs from deterministic modelling results provided from specific scenarios.

The control measures selected provide capability to mobilise shoreline protection equipment by Day 2 (if required). Stochastic modelling scenarios indicate that no shorelines are predicted to be contacted at feasible response thresholds (> 100 g/m²). First shoreline contact below response threshold is predicted at Exmouth Coastline, Ningaloo Coast World Heritage area, and Ningaloo Marine Park (State) on day 1.5 for the Macedon Operations (Cwth) scenario. Existing capability for these initial locations may be insufficient to mobilise and deploy protection at RPAs prior to hydrocarbon contact on day 1.5, but is sufficient by day 2. Protection priorities will be guided by the ongoing operational monitoring.

Tactical response plans exist for many of the RPAs identified. The plans identify values and sensitivities that would be protected at location. Modelling does not predict that all priority protection shorelines will be at risk of contact at the same time. Therefore, to allow for the best use of available shoreline protection and deflection resources, operational monitoring (OM01 and OM02) will inform the response, targeting RPAs where contact is predicted above response threshold levels.

Table 6-4 below outlines the capability required (number of RPAs predicted to be impacted) against the capability available (number of shoreline protection and deflection operations that can be mobilised and deployed). As can be seen from the table below. Woodside’s capability exceeds the response planning need identified for shoreline protection and deflection operations at identified RPAs.

Table 6-4: Response Planning – Shoreline Protection and Deflection

Macedon Operations (Cwth) Vessel Collision Scenario		Day	Day	Day	Day	Day	Day	Day	Week	Week	Week	Month	Month
		1	2	3	4	5	6	7	2	3	4	2	3
	Number of RPAs (from stochastic modelling)	0	1	0	0	0	0	0	0	0	0	0	0
A	Capability Required												
A1	Personnel required – total operations (lower)	0	2	0	0	0	0	0	0	0	0	0	0
A2	Personnel required – total operations (upper)	0	6	0	0	0	0	0	0	0	0	0	0
B	Capability Available (operations per day)												
B1	Personnel available – total operations (lower)	0	2	2	4	4	8	12	140	140	168	616	6161
B2	Personnel available – total operations (upper)	6	12	18	24	36	48	60	420	420	640	1,848	1,848
C	Capability Gap (operations per day)												
C1	Personnel gap – per day (lower)	0	0	0	0	0	0	0	0	0	0	0	0
C2	Personnel gap – per day (upper)	0	0	0	0	0	0	0	0	0	0	0	0

A1 and A3 – the upper and lower number of shoreline protection and deflection response personnel required based on resources-at-risk

B1 and B2 – the upper and lower number of shoreline protection and deflection response personnel (based on response planning assumptions in Section 5.2),

C1 and C2 – the gap between the upper and lower number of shoreline protection and deflection personnel required in A1 and A2 compared to the operations available in B1 and B2

Table 6-5: Indicative Tactical response plan, aims and methods for identified RPAs

Tactical Response Plan	Response aims and methods
Muiron Islands	<p>First response aim: Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident</p> <p>Second response aim: Pre-clean of potential impact areas (if time allows) using rakes and shovels to move any debris above the high tide line and then segregate appropriately</p> <p>Third response aim: Clean-up of the shoreline. Manual clean up techniques, use of mechanical recovery methods and techniques where appropriate</p> <p>Fourth response aim: Collection and specialist cleaning/rehabilitation of oiled wildlife</p>
Ningaloo coast – Mangrove Bay	<p>First Response Aim: Protection of Mangrove Bay Lagoon.</p> <p>Methods: Prevent oil ingress to lagoons through use of shore sealing booms. Complete northern lagoon first, then southern if required – depending on beach topography and tidal cycle.</p> <p>Second Response Aim: Pre-clean of the beach area.</p> <p>Methods: Using rakes and shovels move any debris on the beach to above the high tide area, above the reach of any floating oil.</p> <p>Third Response Aim: Recovery of oil at lagoon entrance.</p> <p>Methods: Use skimmer to recover floating oil.</p> <p>Fourth Response Aim: Clean-up of oiled shoreline.</p> <p>Methods: Manual clean-up techniques, predominantly rakes and shovels, with flushing and vacuum skimming if appropriate and required</p>
Ningaloo coast – Turquoise Bay	<p>First Response Aim: Pre-clean of the beach area.</p> <p>Method: Using rakes and shovels move any debris on the beach to above the high tide area, above the reach of any floating oil.</p> <p>Second Response Aim: Clean-up of oiled shoreline.</p> <p>Method: Manual clean-up techniques, predominantly rakes and shovels, with flushing and vacuum skimming if appropriate and required.</p>
Ningaloo coast – Yardie Creek	<p>First Response Aim: Protection of Yardie Creek entrance.</p> <p>Methods: Prevent oil ingress to lagoon through use of shore sealing boom.</p>

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	<p>Second Response Aim: Pre-clean of the beach area. Methods: Using rakes and shovels move any debris on the beach to above the high tide area, above the reach of any floating oil.</p> <p>Third Response Aim: Recovery of oil at Yardie Creek entrance. Methods: Use skimmer to recover floating oil into temporary storage.</p> <p>Fourth Response Aim: Cleanup of oiled shoreline. Methods: Manual clean-up techniques, predominantly rakes and shovels, with flushing and vacuum skimming if appropriate and required.</p>
Ningaloo coast – Jurabi to Lighthouse Beaches Exmouth	<p>First Response Aim: Pre-clean of the beach area. Method: Using rakes and shovels move any debris on the beach to above the high tide area, above the reach of any floating oil.</p> <p>Second Response Aim: Clean-up of oiled shoreline. Method: Manual clean-up techniques, predominantly rakes and shovels, with flushing and vacuum skimming if appropriate and required.</p>
Exmouth Gulf	<p>First Response Aim: Undertake Monitor and Evaluate strategy – Shoreline assessment techniques to be undertaken.</p> <p>Second Response Aim: Pre-clean of the beach area using rakes and shovels, move any debris on the beach to above the high tide area, above the reach of any floating oil.</p> <p>Third Response Aim: Shoreline Protection - prevent oil from moving into key sensitive areas within the gulf area by deployment of booms. Deflection & containment methods would be undertaken.</p> <p>Fourth Response Aim: Recovery of collected oil where possible through the use of skimming systems. Although boom formations will deflect most of the spilt hydrocarbon away from sensitive areas, it may be necessary to collect and remove floating oil from additional boom formations to prevent the spread of oil down the coastline into the Gulf.</p> <p>Fifth Response Aim: Clean-up of oiled shoreline using manual clean up techniques, predominantly rakes and shovels, with flushing and vacuum skimming if appropriate and required. OPERATIONAL NEBA REQUIRED PRIOR TO DEPLOYMENT</p> <p>Sixth Response Aim: Collection and cleaning of oiled wildlife.</p>
Pilbara Islands – Southern Island Group	<p>First Response objective: Undertake Monitor and Evaluate strategy – Shoreline assessment techniques to be undertaken.</p> <p>Second Response objective: Pre-clean of the beach area using rakes and shovels, move any debris on the beach to above the high tide area, above the reach of any floating oil.</p> <p>Third Response objective: Shoreline Protection - prevent oil from moving into key sensitive areas within the gulf area by deployment of booms. Deflection & containment methods would be undertaken.</p>

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	<p>Fourth Response objective: Recovery of collected oil where possible through the use of skimming systems. Although boom formations will deflect most of the spilt hydrocarbon away from sensitive areas, it may be necessary to collect and remove floating oil from additional boom formations to prevent the spread of oil down the coastline into the Gulf.</p> <p>Fifth Response objective: Clean-up of oiled shoreline using manual clean up techniques, predominantly rakes and shovels, with flushing and vacuum skimming if appropriate and required.</p>
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Pre-emptive mobilisation of equipment and personnel would commence as soon as practicable prior to oil contact. Additional resources would be mobilised depending on the scale of the event to increase the length or number of shorelines being protected.

A shoreline protection and deflection response would be launched and additional TRPs drafted only when operational monitoring (OM02 and OM03) and modelling (OM01) indicate that contact could occur at RPA(s) within 14 days. The outputs from the monitoring will inform the need for and/or direct any additional response techniques and, additionally, if/when the spill enters State Waters and control of the incident passes to WA DoT.

6.4.3 Shoreline Protection and Deflection – Control Measure Options Analysis

6.4.3.1 Alternative Control Measures

Alternative Control Measures considered					
<i>Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Pre-position equipment at Response Protection Areas (RPAs)	Additional environmental benefit of having equipment prepositioned is considered minor. Equipment is currently available to protect RPAs and additional shorelines, within estimated minimum times until shoreline contact at RPAs, enabling mobilisation of the selected delivery options.	<p>The incremental environmental benefit associated with these delivery options is considered minor and unlikely to reduce the environmental consequence of a significant hydrocarbon release beyond the adopted delivery options. Considering the highly unlikely nature of a significant hydrocarbon release and the costs and organisational complexity associated with prepositioning and maintenance of equipment, the sacrifice is considered disproportionate to the limited environmental benefit that might be realised.</p> <p>Furthermore, these options would conflict with the mutual aid philosophy being adopted under the selected delivery options.</p> <p>The selected delivery options for shoreline protection and deflection meet the relevant objectives of this control measure and do not require prepositioned or additional equipment in Exmouth.</p>	Total cost to preposition protection/ deflection packages at each site of potential impact would be approx. A\$6,100 per package per day.	This option is not adopted as the existing capability meets the need.	No

6.4.3.2 Additional Control Measures

Additional Control Measures considered					
<i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Supplemented stockpiles of equipment in Exmouth to protect additional shorelines	<p>Additional equipment would increase the number of receptor areas that could be protected from hydrocarbon contact. However, current availability of personnel and equipment is capable of protecting up to 30 km of shoreline, commensurate with the scale and progressive nature of shoreline impact. Additional stocks would be made available from international sources if long term up scaling were necessary.</p> <p>A reduction in environmental consequence from a 'B' rating (serious long-term impacts) is unlikely to be realised as a result of having more equipment available locally.</p>	<p>The incremental environmental benefit associated with these delivery options is considered minor and unlikely to reduce the environmental consequence of a significant hydrocarbon release beyond the adopted delivery options. Considering the highly unlikely nature of a significant hydrocarbon release and the costs and organisational complexity associated with prepositioning and maintenance of equipment, the sacrifice is considered disproportionate to the limited environmental benefit that might be realised.</p> <p>Furthermore, these options would conflict with the mutual aid philosophy being adopted under the selected delivery options.</p> <p>The selected delivery options for shoreline protection and deflection meet the relevant objectives of this control measure and do not require prepositioned or additional equipment in Exmouth.</p>	Total cost for purchase supplemental protection and deflection equipment would be approx. A\$455,000 per package.	This option is not adopted as the existing capability meets the need.	No

Additional trained personnel	The level of training and competency of the response personnel ensures the shoreline protection and deflection operation is delivered with minimum secondary impact to the environment. Training additional personnel does not provide an increased environmental benefit.	Additional personnel required to sustain an extended response can be sourced through the Woodside <i>People & Global Capability Surge Labour Requirement Plan</i> . Additional personnel sourced from contracted OSRO's (OSRL/AMOSC) to manage other responders. Response personnel are trained and exercised regularly in shoreline response techniques and methods. All personnel involved in a response will receive a full operational/safety brief prior to commencing operations.	Additional Specialist Personnel would cost A\$2,000 per person per day.	This option is not adopted as the existing capability meets the need.	No
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6.4.3.3 Improved Control Measures

Improved Control Measures considered

Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Faster response/mobilisation time	Given modelling does not predict shoreline impacts at the threshold, Woodside considers that opportunistic deployment of protection and deflection operations prior to impact is sufficient.	Response teams, trained personnel, contracted oil spill response service providers, government agencies and the associated mitigation equipment required to enact an initial protection and deflection response will be available for mobilisation within 24-48 hrs of activation. Additional equipment from existing stockpiles and oil spill response service providers can be on scene within days.	The cost of establishing a local stockpile of new mitigation equipment (including protection and deflection boom) closer to the expected hydrocarbon stranding areas is not commensurate with the need.	This option is not adopted as the existing capability meets the need.	No

6.4.4 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- Alternative
 - None selected
- Additional
 - None selected
- Improved
 - None selected

6.5 Wildlife Response – ALARP Assessment

Alternative, Additional and Improved options have been identified and assessed against the base capability described in Section 5 with those that have been selected for implementation highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.5.1 Existing Capability – Wildlife Response

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/vessel/aircraft/vehicle location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.5.2 Wildlife Response - Control Measure Options Analysis

6.5.2.1 Alternative Control Measures

Alternative Control Measures considered					
Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Direct contracts with service providers	This option duplicates the capability accessed through AMOSC and OSRL and would compete for the same resources. Does not provide a significant increase in environmental benefit.	These delivery options provide increased effectiveness through more direct communication and control of specialists. However, no significant net benefit is anticipated.	Duplication of capability – already subscribed to through contracts with AMOSC and OSRL	This option is not adopted as the existing capability meets the need.	No

6.5.2.2 Additional Control Measures

Additional Control Measures considered					
Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Additional wildlife treatment systems	<p>The selected delivery options provide access to call-off contracts with selected specialist providers. The agreements ensure that these resources can be mobilised to meet the required response objectives, commensurate with the progressive nature of environmental impact and the time available to monitor hydrocarbon plume trajectories.</p> <p>Provides response equipment and personnel by Day 3. The additional cost in having a dedicated oiled wildlife response (equipment and personnel) in place is disproportionate to environmental benefit.</p> <p>These selected delivery options provide capacity to carry out an oiled wildlife response if contact is predicted; and to scale up the response if required to treat widespread contamination.</p> <p>Current capability meets the needs required and there is no additional environmental benefit in adopting the improvements.</p>	<p>Although hydrocarbon contact above wildlife response threshold concentrations (>10 g/m²) with offshore waters is expected from day one (CS-01), given the low likelihood of such an event occurring and that the current capability meets the need, the cost of implementing measures to reduce the mobilisation time is considered disproportionate to the benefit.</p> <p>Numbers of oiled wildlife are expected to be low in the remote offshore setting of the oiled wildlife response, given the distance from known aggregation areas.</p> <p>Oiled wildlife response capacity would be addressed for open Commonwealth waters through the AMOSC arrangements, as informed by operational monitoring.</p> <p>The cost and organisational complexity of this approach is moderate, and the overall delivery effectiveness is high.</p>	Additional wildlife response resources could total A\$1,700 per operational site per day.	This option is not adopted as the existing capability meets the need.	No
Additional trained wildlife responders	Numbers of oiled wildlife are expected to be low in the remote offshore setting of the oiled wildlife response, given the distance from known aggregation areas.	Current numbers meet the needs required and additional personnel are available through existing contracts with oil spill response organisations and environmental panel contractors.	Additional wildlife response personnel cost A\$2,000 per person per day	This option is not adopted as the existing capability meets the need.	No

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	The potential environmental benefit of training additional personnel is expected to be low.	Additional equipment and facilities would be required to support ongoing response, depending on the scale of the event and the impact to wildlife and maybe sourced via existing contracts with OSROs. Materials for holding facilities, portable pools, enclosures and rehabilitation areas would be sourced as required.			
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6.5.2.3 Improved Control Measures

Improved Control Measures considered					
Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Faster mobilisation time for wildlife response	Response time is limited by specialist personnel mobilisation time. Current timing is sufficient for expected first shoreline contact. This control measure provides increased effectiveness through faster mobilisation of specialists. However, no significant net environmental benefit is expected due to shoreline stranding times.	Pre-positioning vessels or equipment would reduce mobilisation time for oiled wildlife response activities. However, given the effectiveness of an oiled wildlife response is expected to be low, an earlier response would provide a marginal increase in environmental benefit.	Wildlife response packages to preposition at vulnerable sites identified through the deterministic modelling cost A\$700 per package per day. The cost of having dedicated equipment and personnel available to respond faster is considered disproportionate to the environmental benefit.	This option is not adopted as the existing capability meets the need.	No

6.5.3 Selected control measures

Following review of alternative, additional and improved control measures, the following controls were selected for implementation for the PAP.

- Alternative
 - None selected
- Additional
 - None selected
- Improved
 - None selected

6.6 Waste Management – ALARP Assessment

Alternative, Additional and Improved options have been identified and assessed against the base capability described in Section 5 with those that have been selected for implementation highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.6.1 Existing Capability – Waste Management

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/vessel/aircraft/vehicle location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.6.2 Waste Management - Control Measure Options Analysis

6.6.2.1 Alternative Control Measures

Alternative Control Measures considered					
<i>Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical alternative control measures identified					

6.6.2.2 Additional Control Measures

Additional Control Measures considered					
<i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Increased waste storage capability	The procurement of waste storage equipment options on the day of the event will allow immediate response and storage of collected waste. The environmental benefit of immediate waste storage is to reduce ecological consequence by safely securing waste, allowing continuous response operations to occur.	Access to Woodside's waste contractor's storage options provides the resources required to store and transport sufficient waste to meet the need. Access to waste contractors existing facilities enables waste to be stockpiled and gradually processed within the regional waste handling facilities. Additional temporary storage equipment is available through existing contract and arrangements with OSRL. Existing arrangements meet identified need for the PAP.	Cost for increased waste disposal capability would be approx. A\$1,300 per m ³ . Cost for increased onshore temporary waste storage capability would be approx. A\$40 per unit per day.	This option is not adopted as the existing capability meets the need.	No

6.6.2.3 Improved Control Measures

Improved Control Measures considered					
<i>Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Faster response time	The access to Woodside's waste contractor's storage options provides the resources to store and transport waste, permitting the wastes to be stockpiled and gradually processed within the regional waste handling facilities. Bulk transport to Woodside's waste contractor's licensed waste management facilities would be undertaken via controlled-waste-licensed vehicles and in accordance with Environmental Protection (Controlled Waste) Regulations 2004.	Woodside already maintains an equipment stockpile in Exmouth to enable shorter response times to incidents. This stockpile includes temporary waste storage equipment. Woodside has access to stockpiles of waste storage and equipment in Dampier and Exmouth through existing contracts and arrangements.	The incremental benefit of having a dedicated local Woodside owned stockpile of waste equipment and transport is considered minor and cost is considered disproportionate to the benefit gained given predicted shoreline contact times.	This option is not adopted as the existing capability meets the need.	No

	<p>The environmental benefit from successful waste storage will reduce pressure on the treatment and disposal facilities reducing ecological consequences by safely securing waste. In addition, waste storage and transport will allow continuous response operations to occur.</p> <p>This delivery option would increase known available storage, eliminating the risk of additional resources not being available at the time of the event. However, the environmental benefit of Woodside procuring additional waste storage is considered minor as the risk of additional storage not being available at the time of the event is considered low and existing arrangements provide adequate storage to support the response.</p>				
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6.6.3 Selected control measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- Alternative
 - None selected
- Additional
 - None selected
- Improved
 - None selected

6.7 Scientific Monitoring – ALARP Assessment

Alternative, Additional and Improved options have been identified and assessed against the base capability described in Section 5 with those that have been selected for implementation highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.7.1 Existing Capability – Scientific Monitoring

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/ vessel/ aircraft/ vehicle location and duties, survey or classification society inspection requirements, overflight/ port/ quarantine permits and inspections, crew/ pilot duty and fatigue hours, refuelling/ re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.7.2 Scientific Monitoring – Control Measure Options Analysis

6.7.2.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Analytical laboratory facilities closer to the likely spill affected area	The environmental consideration of having access to suitable laboratory facilities in Karratha to carry out the hydrocarbon analysis would provide faster turnaround in reporting of results only by a matter of days (as per the time to transport samples to laboratories).	SM01 water quality monitoring requires water samples to be transported to NATA-rated laboratories in Perth or over to the East coast. Consider the benefit of laboratory access and transportation times to deliver water samples and complete lab analysis. There is a time lag from collection of water samples to being in receipt of results and confirming hydrocarbon contact to sensitive receptors).	Laboratory facilities and staff available at locations closer to the spill affected area can reduce reporting times only to a moderate degree (days) with associated high costs of maintaining capability do not improve the environmental benefit.	This control measure is not adopted as the costs and complexity are considered disproportionate to any environmental benefit that might be realised.	No
Dedicated contracted SMP vessel (exclusive to Woodside)	Would provide faster mobilisation time of scientific monitoring resources, however, the environmental benefit associated with faster mobilisation time would be minor compared to selected options.	Chartering and equipping additional vessels on standby for scientific monitoring has been considered. The option is reasonably practicable but the sacrifice (charter costs and organisational complexity) is significant, particularly when compared with the anticipated availability of vessels and resources within in the required timeframes. The selected delivery provides capability to meet the scientific monitoring objectives, including collection of pre-emptive data where baseline knowledge gaps are identified for receptor locations where spill predictions of time to contact are >10 days. The effectiveness of this alternative control (weather dependency, availability and survivability) is rated as very low	The cost and organisational complexity of employing a dedicated response vessel is considered disproportionate to the potential environmental benefit by adopting these delivery options.	This control measure is not adopted as the costs and complexity are considered disproportionate to any environmental benefit that might be realised.	No

6.7.2.2 Additional control measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Determine baseline data needs and provide implementation plan in the event of an unplanned	Address resourcing needs to collect post spill (pre-contact) baseline data as spill expands in the event of a MDO spill from the PAP activities.	As part of Woodside's Scientific Monitoring Program the following are considered and incorporated into the spill response approach and the SMP Standby Service contract. <ul style="list-style-type: none"> Woodside rely on existing environmental baseline for receptors which have predicted hydrocarbon contact (above 	No cost associated with baseline for SM01.	This control measure is adopted as the costs and complexity are not disproportionate to any environmental benefit that might be realised.	Yes

hydrocarbon release		<p>environment threshold) <10 days and acquiring pre-emptive data in the event of a loss of well control from the PAP activities based on receptors predicted to have hydrocarbon contact >10 days.</p> <ul style="list-style-type: none"> • Ensure there is appropriate baseline for key receptors for all geographic locations that are potentially impacted <10 days of spill event. • Address resourcing needs to collect pre-emptive baseline as spill expands in the event of a spill of MDO from the PAP activities. • For SM01 pre-emptive baseline is not required as marine water quality is assumed to be pristine. 			
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6.7.2.3 Improved Control Measures considered

Improved Control Measures considered					
<i>Improved, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical improved control measures identified					

6.7.3 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- Alternative
 - None selected
- Additional
 - Determine baseline data needs and provide implementation plan in the event of an unplanned hydrocarbon release
- Improved
 - None selected

6.7.4 Operational Plan

Key actions from the Scientific Monitoring Program Operational Plan for implementing the response are outlined in **Table 6-6**.

Table 6-6: Scientific monitoring program operational plan actions

Responsibility	Action
Activation	
CIMT Planning (CIMT Planning – Environment Unit)	Mobilises SMP Lead/Manager and SMP Coordinator to the CIMT Planning function.
CIMT Planning (CIMT Planning – Environment Unit) (SMP Lead/Manager and SMP Coordinator)	Constantly assesses all outputs from OM01, OM02 and OM03 (Annex B) to determine receptor locations and receptors at risk. Confirm sensitive receptors likely to be exposed to hydrocarbons, timeframes to specific receptor locations and which SMPs are triggered. Review baseline data for receptors at risk.
CIMT Planning (CIMT Planning – Environment Unit) (SMP Lead/Manager and SMP Coordinator)	SMP co-ordinator stands up SMP Standby contractor. Stands up subject matter experts, if required.
CIMT Planning (CIMT Planning – Environment Unit) (SMP Lead/Manager, SMP Coordinator, SMP Standby contractor)	Establish if, and where, pre-contact baseline data acquisition is required. Determines practicable baseline acquisition program based on predicted timescales to contact and anticipated SMP mobilisation times. Determines scope for preliminary post-contact surveys during the Response Phase. Determines which SMP activities are required at each location based on the identified receptor sensitivities.
CIMT Planning (CIMT Planning – Environment Unit) (SMP Lead/Manager, SMP Coordinator, SMP Standby contractor)	If response phase data acquisition is required, stand up the contractor SMP teams for data acquisition and instruct them to standby awaiting further details for mobilisation from the CIMT.
CIMT Planning (CIMT Planning – Environment Unit) (SMP Lead/Manager, SMP Coordinator, SMP Standby contractor)	SMP standby contractor, to prepare the Field Implementation Plan. Prepare and obtain sign-off of the Response Phase SMP work plan and Field Implementation Plan. Update the IAP.
CIMT Planning (CIMT Planning – Environment Unit) (SMP Lead/Manager, SMP Coordinator, SMP Standby contractor)	Liaise with CIMT Logistics, and determine the status and availability of aircraft, vessels and road transportation available to transport survey personnel and equipment to point of departure. Engage with SMP standby contractor, SMP Manager and CIMT Logistics to establish mobilisation plan, secure logistics resources and establish ongoing logistical support operations, including:

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Responsibility	Action
	<ul style="list-style-type: none"> • Vessels, vehicles and other logistics resources • Vessel fit-out specifications (as • Detailed in the Scientific Monitoring Program Operational Plan • Equipment storage and pick-up locations • Personnel pick-up/airport departure locations • Ports of departure • Land based operational centres and forward operations bases, Accommodation and food requirements.
<p>CIMT Planning (CIMT Planning – Environment Unit)</p> <p>(SMP Lead/Manager, SMP Coordinator, SMP Standby contractor)</p>	<p>Confirm communications procedures between Woodside SMP team, SMP standby contractor, SMP Team Leads and Operations Point Coordinator.</p>
Mobilisation	
<p>CIMT Logistics</p>	<p>Engage vessels and vehicles and arrange fitting out as specified by the mobilisation Plan Confirm vessel departure windows and communicate with the standby contractor’s SMP Manager.</p> <p>Agree SMP mobilisation timeline and induction procedures with the Division and Sector Command Point(s).</p>
<p>CIMT Logistics</p>	<p>Coordinate with SMP standby contractor to mobilise teams and equipment according to the logistics plan and Sector induction procedures.</p>
<p>SMP Survey Team Leads</p>	<p>SMP Survey Team Leader(s) coordinate on-ground/on-vessel mobilisations and support services with the Sector Command point(s).</p>

6.7.5 ALARP and Acceptability Summary

ALARP and Acceptability Summary		
Scientific Monitoring		
ALARP Summary	X	All known reasonably practicable control measures have been adopted
	X	No additional, alternative and improved control measures would provide further benefit
		No reasonably practical additional, alternative, and/or improved control measure exists
	<p>The resulting scientific monitoring capability has been assessed against the credible spill scenarios. The range of techniques provide an ongoing approach to monitoring operations to assess and evaluate the scale and extent of impacts.</p> <p>All known reasonably practicable control measures have been adopted with the cost and organisational complexity of these options determined to be Moderate and the overall delivery effectiveness considered Medium. The SMP's main objectives can be met, with the addition of one alternative control measures to provide further benefit.</p>	
Acceptability Summary	<ul style="list-style-type: none"> • The control measures selected for implementation manage the potential impacts and risks to ALARP. • In the event of a hydrocarbon spill for the PAP, the control measures selected, meet or exceed the requirements of Woodside Management System and industry best-practice. • Scientific Monitoring control and activities are compliant with relevant environmental legislation and regulations, including the EPBC Act. • Throughout the PAP, relevant Australian standards and codes of practice will be followed to evaluate the impacts from a loss of well control. • Consultation undertaken for the PAP did not receive feedback regarding concerns for Scientific Monitoring activities in response to a hydrocarbon spill. • The level of impact and risk to the environment has been considered with regards to the principles of ESD; and risks and impacts from a range of identified scenarios were assessed in detail. The control measures described consider the conservation of biological and ecological diversity, through both the selection of control measures and the management of their performance. The control measures have been developed to account for credible case scenarios, and uncertainty has not been used as a reason for postponing control measures. 	
<p>On the basis from the impact assessment above and in Section 6 of the EP, Woodside considers the adopted controls discussed manage the impacts and risks associated with implementing scientific monitoring activities to a level that is ALARP and acceptable.</p>		

7 ENVIRONMENTAL RISK ASSESSMENT OF SELECTED RESPONSE TECHNIQUES

The implementation of response techniques may modify the impacts and risks identified in the EP and response activities can introduce additional impacts and risks from response operations themselves. Therefore, it is necessary to complete an assessment to ensure these impacts and risks have been considered and specific measures are put in place to continually review and manage these further impacts and risks to ALARP and Acceptable levels. A simplified assessment process has been used to complete this task which covers the identification, analysis, evaluation and treatment of impacts and risks introduced by responding to the event.

7.1 Identification of impacts and risks from implementing response techniques

Each of the control measures can modify the impacts and risks identified in the EP. These impacts and risks have been previously assessed within the scope of the EP. Refer to the EP for details regarding how these risks are being managed. They are not discussed further in this document.

- Atmospheric emissions
- Routine and non-routine discharges
- Physical presence, proximity to other vessels (shipping and fisheries)
- Routine acoustic emissions vessels
- Lighting for night work/navigational safety
- Invasive marine species
- Collision with marine fauna
- Disturbance to Seabed

Additional impacts and risks associated with the control measures not included within the scope of the EP include:

- Vessel operations and anchoring
- Human presence
- Additional stress or injury caused to wildlife
- Secondary contamination from the management of waste

7.2 Analysis of impacts and risks from implementing response techniques

The table below compares the adopted control measures for this activity against the environmental values that can be affected when they are implemented.

Table 7-1: Analysis of risks and impacts

	Environmental Value						
	Soil and Groundwater	Marine Sediment Quality	Water Quality	Air Quality	Ecosystems/Habitat	Species	Socio-Economic
Operational monitoring	✓		✓	✓		✓	
Source control			✓	✓			
Shoreline protection and deflection	✓	✓			✓	✓	✓
Oiled wildlife				✓	✓	✓	
Scientific monitoring	✓	✓	✓	✓			
Waste management	✓	✓	✓				✓

7.3 Evaluation of impacts and risks from implementing response techniques

Vessel operations and anchoring

During the implementation of response techniques, where water depths allow, it is possible that response vessels will be required to anchor (e.g. during shoreline surveys). The use of vessel anchoring will be minimal and likely to occur when the impacted shoreline is inaccessible via road. Anchoring in the nearshore environment of sensitive receptor locations will have the potential to impact coral reef, seagrass beds and other benthic communities in these areas. Recovery of benthic communities from anchor damage depends on the size of anchor and frequency of anchoring. Impacts would be highly localised (restricted to the footprint of the vessel anchor and chain) and temporary, with full recovery expected.

Human presence

Human presence for manual clean-up operations may lead to the compaction of sediments and damage to the existing environment especially in sensitive locations such as mangroves and turtle nesting beaches. However, any impacts are expected to be localised with full recovery expected.

Waste generation

Implementing the selected response techniques will result in the generation of the following waste streams that will require management and disposal:

- Liquids (recovered oil/water mixture), recovered from oiled wildlife response
- Semi-solids/solids (oily solids), collected during oiled wildlife response
- Debris (e.g. seaweed, sand, woods, plastics), collected during oiled wildlife response.

If not managed and disposed of correctly, wastes generated during the response have the potential for secondary contamination similar to that described above, impacts to wildlife through contact with or ingestion of waste materials and contamination risks if not disposed of correctly onshore.

Additional stress or injury caused to wildlife

Additional stress or injury to wildlife could be caused through the following phases of a response:

- Capturing wildlife
- Transporting wildlife
- Stabilisation of wildlife
- Cleaning and rinsing of oiled wildlife
- Rehabilitation (e.g. diet, cage size, housing density)
- Release of treated wildlife

Inefficient capture techniques have the potential to cause undue stress, exhaustion or injury to wildlife, additionally pre-emptive capture could cause undue stress and impacts to wildlife when there are uncertainties in the forecast trajectory of the spill. During the transportation and stabilisation phases there is the potential for additional thermoregulation stress on captured wildlife. Additionally, during the cleaning process, it is important personnel undertaking the tasks are familiar with the relevant techniques to ensure that further injury and the removal of water proofing feathers are managed and mitigated. Finally, during the release phase it's important that wildlife is not released back into a contaminated environment.

7.4 Treatment of impacts and risks from implementing response techniques

In respect of the impacts and risks assessed the following treatment measures have been adopted. It must be recognised that this environmental assessment is seeking to identify how to maintain the level of impact and risks at levels that are ALARP and of an acceptable level rather than exploring further impact and risk reduction. It is for this reason that the treatment measures identified in this assessment will be captured in Operational Plans, Tactical Response Plans, and/or First Strike Plans.

Vessel operations and access in the nearshore environment

- If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic environments with a preference for areas of sandy seabed where they can be identified (PS 8.1, 15.2).
- Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines (PS 8.2, 15.2).

Human presence

- Shoreline access routes with the least environmental impact identified will be selected by a specialist in SCAT operations (PS 8.3).

Waste generation

- All oiled wildlife response sites zoned and marked before operations commence to prevent secondary contamination and minimise the mixing of clean and oiled waste (PS 21.1)

Additional stress or injury caused to wildlife

- Oiled wildlife operations (including hazing) would be implemented with advice and assistance from the Oiled Wildlife Advisor from the DBCA, and in accordance with the processes and methodologies described in the WA OWRP and the relevant regional plan (PS 19.1).

8 ALARP CONCLUSION

An analysis of alternative, additional and improved control measures has been undertaken to determine their reasonableness and practicability. The tables in Section 6 document the considerations made in this evaluation. Where the costs of an alternative, additional, or improved control measure have been determined to be clearly disproportionate to the environmental benefit gained from its adoption it has been rejected. Where this is not considered to be the case the control measure has been adopted.

The risks from a hydrocarbon spill have been reduced to ALARP because:

- Woodside has a significant hydrocarbon spill response capability to respond to the WCCS through the control measures identified.
- New and modified impacts and risks associated with implementing response techniques have been considered and will not increase the risks associated with the activity.
- A consideration of alternative, additional, and improved control measures identified any other control measures that delivered proportionate environmental benefit compared to the cost of adoption for this activity ensuring that:
 - All known, reasonably practicable control measures have been adopted.
 - No additional, reasonably practicable alternative and/or improved control measures would provide further environmental benefit.
 - No reasonably practical additional, alternative, and/or improved control measure exists.
- A structured process for considering alternative, additional, and improved control measures was completed for each control measure.
- The evaluation was undertaken based on the outputs of the WCCS so that the capability in place is sufficient for all other scenario from this activity.
- The likelihood of the WCCS spill has been ignored in evaluating what was reasonably practicable.

9 ACCEPTABILITY CONCLUSION

Following the ALARP evaluation process, Woodside deems the hydrocarbon spill risks and impacts have been reduced to an acceptable level by meeting all of the following criteria:

- Techniques are consistent with Woodside's processes and relevant internal requirements including policies, culture, processes, standards, structures and systems.
- Levels of risk/ impact are deemed acceptable by relevant persons/ organisations and are aligned with the uniqueness of, and/or the level of protection assigned to the environment, its sensitivity to pressures introduced by the activity, and the proximity of activities to sensitive receptors, and have been aligned with Part 3 of the EPBC Act.
- Selected control measures meet requirements of legislation and conventions to which Australia is a signatory (e.g. MARPOL, the World Heritage Convention, the Ramsar Convention, and the Biodiversity Convention etc.). In addition to these, other non-legislative requirements met include:
 - Australian IUCN reserve management principles for Commonwealth marine protected areas and bioregional marine plans.
 - National Water Quality Management Strategy and supporting guidelines for marine water quality).
 - Conditions of approval set under other legislation.
 - National and international requirements for managing pollution from ships.
 - National biosecurity requirements.
- Industry standards, best practices and widely adopted standards and other published materials have been used and referenced when defining acceptable levels. Where these are inconsistent with mandatory/ legislative regulations, explanation has been provided for the proposed deviation. Any deviation produces the same or a better level of environmental performance (or outcome).

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11 GLOSSARY AND ABBREVIATIONS

11.1 Glossary

Term	Description / Definition
ALARP	Demonstration through reasoned and supported arguments that there are no other practicable options that could reasonably be adopted to reduce risks further.
Availability	The availability of a control measure is the percentage of time that it is capable of performing its function (operating time plus standby time) divided by the total period (whether in service or not). In other words, it is the probability that the control has not failed or is undergoing a maintenance or repair function when it needs to be used.
Control	The means by which risk from events is eliminated or minimised.
Control effectiveness	A measure of how well the control measures perform their required function.
Control measure (risk control measure)	The features that eliminate, prevent, reduce or mitigate the risk to environment associated with PAP.
Credible spill scenario	A spill considered by Woodside as representative of maximum volume and characteristics of a spill that could occur as part of the PAP.
Dependency	The degree of reliance on other systems in order for the control measure to be able to perform its intended function.
Environment that may be affected	The summary of quantitative modelling where the marine environment could be exposed to hydrocarbons levels exceeding hydrocarbon threshold concentrations.
Incident	An event where a release of energy resulted in or had (with) the potential to cause injury, ill health, damage to the environment, damage to equipment or assets or company reputation.
Major Environment Event	The events with potential environment, reputation, social or cultural consequences of category C or higher (as per Woodside's operational risk matrix) which are evaluated against credible worst-case scenarios which may occur when all controls are absent or have failed.
Performance outcome	A statement of the overall goal or outcome to be achieved by a control measure
Performance standard	The parameters against which [risk] controls are assessed to ensure they reduce risk to ALARP. A statement of the key requirements (indicators) that the control measure has to achieve in order to perform as intended in relation to its functionality, availability, reliability, survivability and dependencies.
Preparedness	Measures taken before an incident in order to improve the effectiveness of a response
Reasonably practicable	... a computation ... made by the owner, in which the quantum of risk is placed on one scale and the sacrifice involved in the measures necessary for averting the risk (whether in money, time or trouble) [showing whether or not] that there is a gross disproportion between them ... made by the owner at a point of time anterior to the accident. (Judgement: Edwards v National Coal Board [1949])

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Term	Description / Definition
Receptors at risk	Physical, biological and social resources identified as at risk from hydrocarbon contact using oil spill modelling predictions.
Receptor areas	Geographically referenced areas such as bays, islands, coastlines and/or protected area (WHA, Commonwealth or State marine reserve or park) containing one or more receptor type.
Receptor Sensitivities	This is a classification scheme to categorise receptor sensitivity to an oil spill. The Environmental Sensitivity Index (ESI) is a numerical classification of the relative sensitivity of a particular environment (particularly different shoreline types) to an oil spill. Refer to the Woodside Oil Pollution Emergency Arrangements (Australia) for more details.
Regulator	NOPSEMA are the Environment Regulator under the Environment Regulations.
Reliability	The probability that at any point in time a control measure will operate correctly for a further specified length of time.
Response technique	The key priorities and objectives to be achieved by the response plan Measures taken in response to an event to reduce or prevent adverse consequences.
Survivability	Whether or not a control measure is able to survive a potentially damaging event is relevant for all control measures that are required to function after an incident has occurred.
Threshold	Hydrocarbon threshold concentrations applied to the risk assessment to evaluate hydrocarbon spills. These are defined as: surface hydrocarbon concentration – $\geq 10 \text{ g/m}^2$, dissolved – $\geq 100 \text{ ppb}$ and entrained hydrocarbon concentrations – $\geq 500 \text{ ppb}$.
Zone of Application	The zone in which Woodside may elect to apply dispersant. The zone is determined based on a range of considerations, such as hydrocarbon characteristics, weathering and metocean conditions. The zone is a key consideration in the Net Environmental Benefit Analysis for dispersant use.

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11.2 Abbreviations

Abbreviation	Meaning
ADIOS	Automated Data Inquiry for Oil Spills
AIIMS	Australasian Inter-Service Incident Management System
ALARP	As low as reasonably practicable
AMOSC	Australian Marine Oil Spill Centre
AMP	Australian Marine Park
AMSA	Australian Maritime Safety Authority
AUV	Autonomous Underwater Vehicle
BAOAC	Bonn Agreement Oil Appearance Code
BOP	Blowout Preventer
cST	Centistokes
CIMT	Corporate Incident Management Team
DM	Duty Manager
DoT	Western Australia Department of Transport
DBCA	Western Australia Department of Biodiversity, Conservation and Attractions (former Western Australian Department of Parks and Wildlife)
EMBA	Environment that May Be Affected
EMSA	European Maritime Safety Agency
EP	Environment Plan
Environment Regulations	Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009
ESI	Environmental Sensitivity Index
ESD	Emergency Shut Down
ESP	Environmental Services Panel
FPSO	Floating Production Storage Offloading
FSP	First Strike Plan
GIS	Geographic Information System
GPS	Global Positioning System
HSP	Hydrocarbon Spill Preparedness
IAP	Incident Action Plan
IMT	Incident Management Team
IPIECA	International Petroleum Industry Environment Conservation Association
ITOPF	International Tanker Owners Pollution Federation
IUCN	International Union for Conservation of Nature
KBSF	King Bay Supply Facility
KIMC	Karratha Incident Management Centre
KSAT	Kongsberg Satellite
MODU	Mobile Offshore Drilling Unit

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Abbreviation	Meaning
MoU	Memorandum of Understanding
NEBA	Net Environmental Benefit Analysis
NOAA	National Oceanic and Atmospheric Administration
NRT	National Response Team
OILMAP	Oil Spill Model and Response System
OPEA	Oil Pollution Emergency Arrangements
OPEP	Oil Pollution Emergency Plan
OPGGSA	Offshore Petroleum and Greenhouse Gas Storage Act
OSRL	Oil Spill Response Limited
OSTM	Oil Spill Trajectory Modelling
OWR	Oiled Wildlife Response
OWRP	Oiled Wildlife Response Plan
PAP	Petroleum Activities Program
PEARLS	People, Environment, Asset, Reputation, Livelihood and Services
PBA	Pre-emptive Baseline Areas
PPA	Priority Protection Area
PPB	Parts per billion
PPM	Parts per million
ROV	Remotely Operated Vehicle(s)
RPA	Response Protection Area
SCAT	Shoreline Contamination Assessment Techniques
SIMAP	Integrated Oil Spill Impact Model System
SSDI	Subsea Dispersant Injection
SFRT	Subsea First Response Toolkit
SMP	Scientific monitoring program
SOP	Standard Operating Procedure
TRP	Tactical Response Plan
UAS	Unmanned Aerial Systems
UAV	Unmanned Aerial Vehicles
WHA	World Heritage Area
Woodside	Woodside Energy Limited
WCC	Woodside Communication Centre
WWCI	Wild Well Control Inc
WCCS	Worst Case Credible Scenario
ZoA	Zone of Application

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ANNEX A: NET ENVIRONMENTAL BENEFIT ANALYSIS DETAILED OUTCOMES

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A NEBA has been conducted to assess the net environmental benefit of different response techniques to selected receptors in the event of an oil spill from the PAP for vessel collision (MDO). The complete list of potential receptor locations within the EMBA within the PAP is included in Section 4 of the EP.

The locations utilised for the NEBA were limited to the identified RPAs of the PAP identified from modelling (see Section 3 for outline of selection). These include receptors which have potential for the following:

- Surface contact (>50 g/m²)
- Shoreline accumulation (>100 g/m²) at any time
- Entrained contact (>100 ppb) within 14 days

The detailed NEBA assessment outcomes are shown below. The Macedon Operations (Cwth) preoperational NEBAs contains the full assessments.

Table A-1: NEBA assessment technique recommendations for MDO release following a vessel collision

Receptor	Operational Monitoring	Containment and recovery	Dispersant application: sub-sea	Dispersant application: > 20 m water depth and > 10 km from shore/reefs	Shoreline protection	Shoreline clean-up (manual)	Shoreline clean-up (mechanical)	Shoreline clean-up (chemical)	Oiled wildlife response	In situ burning	Mechanical dispersion	Source control (vessel)
Exmouth Coastline	Yes	No	N/A	No	Potentially	No	No	No	Yes	No	No	Yes
Muiron Islands	Yes	No	N/A	No	Potentially	No	No	No	Yes	No	No	Yes
Ningaloo Coast World Heritage Area	Yes	No	N/A	No	Potentially	No	No	No	Yes	No	No	Yes
Ningaloo Marine Park (State)	Yes	No	N/A	No	Potentially	No	No	No	Yes	No	No	Yes
Muiron Islands Marine Management Area	Yes	No	N/A	No	Potentially	No	No	No	Yes	No	No	Yes
Gascoyne Australian Marine Park	Yes	No	N/A	No	N/A	No	No	No	Yes	No	No	Yes
Ningaloo Australian Marine Park	Yes	No	N/A	No	N/A	No	No	No	Yes	No	No	Yes

Overall assessment

Sensitive receptor (sites identified in EP)	Operational Monitoring	Containment and recovery	Dispersant application: sub-sea	Dispersant application: > 20 m water depth and > 10 km from shore/reefs	Shoreline protection	Shoreline clean-up (manual)	Shoreline clean-up (mechanical)	Shoreline clean-up (chemical)	Oiled wildlife response	In situ burning	Mechanical dispersion	Source control (vessel)
Is this response Practicable?	Yes	No	N/A	No	Potentially	No	No	No	Yes	No	No	Yes
NEBA identifies response potentially of net environmental benefit?	Yes	No	N/A	No	Yes	No	No	No	Yes	No	No	Yes

NEBA Impact Ranking Classification Guidance

To reduce variability between assessments, the following ranking descriptions have been devised to guide the workshop process:

		Degree of impact ⁴		Potential duration of impact	Equivalent Woodside Corporate Risk Matrix Consequence Level
Positive	3P	Major	Likely to prevent: <ul style="list-style-type: none"> behavioural impact to biological receptors behavioural impact to socio-economic receptors e.g. changes to day-to-day business operations, public opinion/behaviours (e.g. avoidance of amenities such as beaches) or regulatory designations. 	Decrease in duration of impact by > 5 years	N/A
	2P	Moderate	Likely to prevent: <ul style="list-style-type: none"> significant impact to a single phase of reproductive cycle of biological receptors detectable financial impact, either directly (e.g. loss of income) or indirectly (e.g. via public perception), for socio-economic receptors. 	Decrease in duration of impact by 1–5 years	N/A
	1P	Minor	Likely to prevent impacts on: <ul style="list-style-type: none"> significant proportion of population or breeding stages of biological receptors socio-economic receptors such as: <ul style="list-style-type: none"> significant impact to the sensitivity of protective designation; or significant and long-term impact to business/industry. 	Decrease in duration of impact by several seasons (< 1 year)	N/A
	0	Non-mitigated spill impact	No detectable difference to unmitigated spill scenario.		
Negative	1N	Minor	Likely to result in: <ul style="list-style-type: none"> behavioural impact to biological receptors behavioural impact to socio-economic receptors e.g. changes to day-to-day business operations, public opinion/behaviours (e.g. avoidance of amenities such as beaches), or regulatory designations. 	Increase in duration of impact by several seasons (< 1 year)	Increase in risk by one sub-category, without changing category (e.g. Minor (E) to Minor (D))
	2N	Moderate	Likely to result in: <ul style="list-style-type: none"> significant impact to a single phase of reproductive cycle for biological receptors; or detectable financial impact, either directly (e.g. loss of income) or indirectly (e.g. via public perception), for socio-economic receptors. This level of negative impact is recoverable and unlikely to result in closure of business/industry in the region. 	Increase in duration of impact by 1–5 years	Increase in risk by one category (e.g. Minor (D) to Moderate (C or B))
	3N	Major	Likely to result in impacts on: <ul style="list-style-type: none"> significant proportion of population or breeding stages of biological receptors socio-economic receptors resulting in either: <ul style="list-style-type: none"> significant impact to the sensitivity of protective designation; or significant and long-term impact to business/industry. 	Increase in duration of impact by > 5 years or unrecoverable	Increase in risk by two categories (e.g. Minor (E) to Major (A))

⁴ NOTE: the maximum likely impact should be considered; for example, if a spill were to directly impact the behaviour that results in an impact to reproduction and/or the breeding population (such as fish failing to aggregate to spawn), then the score should be a 2 or 3 rather than a 1. Similarly, if a change in behaviour resulted in an increased risk of mortality of a population, then it should be scored as a 2 or 3

ANNEX B: OPERATIONAL MONITORING ACTIVATION AND TERMINATION CRITERIA

Table B-1: Operational monitoring objectives, triggers and termination criteria

Operational Monitoring Operational Plan	Objectives	Activation triggers	Termination criteria
<p>Operational Monitoring Operational Plan – 01 (OM01)</p> <p>Predictive Modelling of Hydrocarbons to Assess Resources at Risk</p>	<p>OM01 focuses on the conditions that have prevailed since a spill commenced, as well as those that are forecasted in the short term (1–3 days ahead) and longer term. OM01 utilises computer-based forecasting methods to predict hydrocarbon spill movement and guide the management and execution of spill response operations to maximise the protection of environmental resources at risk.</p> <p>The objectives of OM01 are to:</p> <ul style="list-style-type: none"> • Provide forecasting of the movement and weathering of spilled hydrocarbons • Identify resources that are potentially at risk of contamination • Provide simulations showing the outcome of alternative response options (booming patterns etc.) to inform on-going Net Environmental Benefit Analysis (NEBA) and continually assess the efficacy of available response options in order to reduce risks to ALARP 	<p>OM01 will be triggered immediately following a level 2/3 hydrocarbon spill.</p>	<p>The criteria for the termination of OM01 are:</p> <ul style="list-style-type: none"> • The hydrocarbon discharge has ceased and no further surface oil is visible • Response activities have ceased • Hydrocarbon spill modelling (as verified by OM02 surveillance observations) predicts no additional natural resources will be impacted

Operational Monitoring Operational Plan	Objectives	Activation triggers	Termination criteria
<p>Operational Monitoring Operational Plan – 02 (OM02)</p> <p>Surveillance and reconnaissance to detect hydrocarbons and resources at risk</p>	<p>OM02 aims to provide regular, on-going hydrocarbon spill surveillance throughout a broad region, in the event of a spill.</p> <p>The objectives of OM02 are:</p> <ul style="list-style-type: none"> • Verify spill modelling results and recalibrate spill trajectory models (OM01). • Understand the behaviour, weathering and fate of surface hydrocarbons. • Identify environmental receptors and locations at risk or contaminated by hydrocarbons. • Inform ongoing Net Environmental Benefit Analysis (NEBA) and continually assess the efficacy of available response options in order to reduce risks to ALARP. • To aid in the subsequent assessment of the short- to long-term impacts and/or recovery of natural resources (assessed in SMPs) by ensuring that the visible cause and effect relationships between the hydrocarbon spill and its impacts to natural resources have been observed and recorded during the operational phase. 	<p>OM02 will be triggered immediately following a level 2/3 hydrocarbon spill.</p>	<p>The termination triggers for the OM02 are:</p> <ul style="list-style-type: none"> • 72 hours has elapsed since the last confirmed observation of surface hydrocarbons. • Latest hydrocarbon spill modelling results (OM01) do not predict surface exposures at visible levels.
<p>Operational Monitoring Operational Plan – 03 (OM03)</p> <p>Monitoring of hydrocarbon presence, properties, behaviour and weathering in water</p>	<p>OM03 will measure surface, entrained and dissolved hydrocarbons in the water column to inform decision-making for spill response activities.</p> <p>The specific objectives of OM03 are as follows:</p> <ul style="list-style-type: none"> • Detect and monitor for the presence, quantity, properties, behaviour and weathering of surface, entrained and dissolved hydrocarbons. • Verify predictions made by OM01 and observations made by OM02 about the presence and extent of hydrocarbon contamination. <p>Data collected in OM03 will also be used for the purpose of longer-term water quality monitoring during SM01.</p>	<p>OM03 will be triggered immediately following a level 2/3 hydrocarbon spill.</p>	<p>The criteria for the termination of OM03 are as follows:</p> <ul style="list-style-type: none"> • The hydrocarbon release has ceased. • Response activities have ceased. • Concentrations of hydrocarbons in the water are below available ANZECC/ ARMCANZ (2018) trigger values for 99% species protection.

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Operational Monitoring Operational Plan	Objectives	Activation triggers	Termination criteria
<p>Operational Monitoring Operational Plan – 04 (OM04)</p> <p>Pre-emptive assessment of sensitive receptors at risk</p>	<p>OM04 aims to undertake a rapid assessment of the presence, extent and current status of shoreline sensitive receptors prior to contact from the hydrocarbon spill, by providing categorical or semi-quantitative information on the characteristics of resources at risk.</p> <p>The primary objective of OM04 is to confirm understanding of the status and characteristics of environmental resources predicted by OM01 and OM02 to be at risk, to further assist in making decisions on the selection of appropriate response actions and prioritisation of resources.</p> <p>Indirectly, qualitative/semi-quantitative pre-contact information collected by OM04 on the status of environmental resources may also aid in the verification of environmental baseline data and provide context for the assessment of environmental impacts, as determined through subsequent SMPs.</p> <p>OM04 would be undertaken in liaison with WA DoT as the control agency once the oil is in State Waters (if a Level 2/3 incident).</p>	<p>Triggers for commencing OM04 include:</p> <ul style="list-style-type: none"> • Contact of a sensitive habitat or shoreline is predicted by OM01, OM02 and/or OM03. • The pre-emptive assessment methods can be implemented before contact from hydrocarbons (once a receptor has been contacted by hydrocarbons it will be assessed under OM05). 	<p>The criteria for the termination of OM04 at any given location are:</p> <ul style="list-style-type: none"> • Locations predicted to be contacted by hydrocarbons have been contacted. • The location has not been contacted by hydrocarbons and is no longer predicted to be contacted by hydrocarbons (resources should be reallocated as appropriate).

Operational Monitoring Operational Plan	Objectives	Activation triggers	Termination criteria
<p>Operational monitoring operational plan – 05 (OM05)</p> <p>Monitoring of contaminated resources</p>	<p>OM05 aims to implement surveys to assess the condition of wildlife and habitats contacted by hydrocarbons at sensitive habitat and shoreline locations.</p> <p>The primary objectives of OM05 are:</p> <ul style="list-style-type: none"> Record evidence of oiled wildlife (mortalities, sub-lethal impacts, number, extent, location) and habitats (mortalities, sub-lethal impacts, type, extent of cover, area, hydrocarbon character, thickness, mass and content) throughout the response and clean-up at locations contacted by hydrocarbons to inform and prioritise clean-up efforts and resources, while minimising the potential impacts of these activities. <p>Indirectly, the information collected by OM05 may also support the assessment of environmental impacts, as determined through subsequent SMPs.</p> <p>OM05 would be undertaken in liaison with WA DoT as the control agency once the oil is in State Waters (if a Level 2/3 incident).</p>	<p>OM05 will be triggered when a sensitive habitat or shoreline is predicted to be contacted by hydrocarbons by OM01, OM02 and/or OM03.</p>	<p>The criteria for the termination of OM05 at any given location are:</p> <ul style="list-style-type: none"> No additional response or clean-up of wildlife or habitats is predicted. Spill response and clean-up activities have ceased. <p>OM05 survey sites established at sensitive habitat and shoreline locations will continue to be monitored during SM02.</p> <p>The formal transition from OM05 to SM02 will begin on cessation of spill response and clean-up activities.</p>

ANNEX C: OIL SPILL SCIENTIFIC MONITORING PROGRAM

Oil Spill Environmental Monitoring

The following provides some further detail on Woodside's oil spill scientific monitoring Program and includes the following:

- The organisation, roles and responsibilities of the Woodside oil spill scientific monitoring team and external resourcing.
- A summary table of the ten scientific monitoring programs as per the specific focus receptor, objectives, activation triggers and termination criteria.
- Details on the oil spill environmental monitoring activation and termination decision-making processes.
- Baseline knowledge and environmental studies knowledge access via geo-spatial metadata databases.
- An outline of the reporting requirements for oil spill scientific monitoring programs.

Oil Spill Scientific Monitoring – Delivery Team Roles and Responsibilities

Woodside Oil Spill Scientific Monitoring Delivery Team

The Woodside science team are responsible for the delivery of the oil spill scientific monitoring. The roles and responsibilities of the Woodside scientific monitoring delivery team are presented in Table C-1 and the organisational structure and Corporate Incident Management Team (CIMT) linkage provided in Figure C-1.

Woodside Oil Spill Scientific monitoring program – External Resourcing

In the event of a Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors, scientific monitoring personnel and scientific equipment to implement the appropriate SMPs will be provided by SMP Standby contractor who hold a standby contract for SMP via the Woodside Environmental Services Panel (ESP). In the event that additional resources are required other consultancy capacity within the Woodside ESP will be utilised (as needed and may extend to specialist contractors such as research agencies engaged in long-term marine monitoring programs). In consultation with the SMP Standby Contractor and/or specialist contractors, the selection, field sampling and approach of the SMPs will be determined by the nature and scale of the spill.

Table C-1: Woodside and Environmental Service Provider – Oil Spill Scientific Monitoring Program Delivery Team Key Roles and Responsibilities

Role	Location	Responsibility
Woodside Roles		
SMP Lead/ Manager	Onshore	<ul style="list-style-type: none"> • Approves activated the SMPs based on operational monitoring data provided by the Planning Function • Provides advice to the CIMT in relation to scientific monitoring • Provides technical advice regarding the implementation of scientific monitoring • Approves detailed sampling plans prepared for SMPs • Directs liaison between statutory authorities, advisors and government agencies in relation to SMPs.
SMP Co-Ordinator	Onshore	<ul style="list-style-type: none"> • Activates the SMPs based on operational monitoring data provided by the Planning Function • Sits in the Planning function of the CIMT. • Liaises with other CIMT functions to deliver required logistics, resources and operational support from Woodside to support the Environmental Service Provider in delivering on the SMPs. Acts as the conduit for advice from the SMP Lead/Manager to the Environmental Service Provider • Manages the Environmental Service Provider's implementation of the SMPs • Liaises with the Environmental Service Provider on delivery of the SMPs • Arranges all contractual matters, on behalf of Woodside, associated with the Environmental Service Provider's delivery of the SMPs.
Environmental Service Provider Roles		
SMP Standby Contractor – SMP Duty Manager/ Project Manager (SMP Liaison Officer)	Onshore	<ul style="list-style-type: none"> • Coordinates the delivery of the SMPs • Provides costings, schedule and progress updates for delivery of SMPs • Determines the structure of the Environmental Service Provider's team to necessitate delivery of the SMPs • Verifies that HSE Plans, detailed sampling plans and other relevant deliverables are developed and implemented for delivery of the SMPs • Directs field teams to deliver SMPs • Arranges all contractual matters, on behalf of Environmental Service Provider, associated with the delivery of the SMPs to Woodside • Manages sub-consultant delivery to Woodside • Provides required personnel and equipment to deliver the SMPs.
SMP Field Teams	Offshore – Monitoring Locations	<ul style="list-style-type: none"> • Delivers the SMPs in the field consistent with the detailed sampling plans and HSE requirements, within time and budget. • Early communication of time, budget, HSE risks associated with delivery of the SMPs to the Environmental Service Provider – Project Manager • Provides start up, progress and termination updates to the Environmental Service Provider – Project Manager (will be led in-field by a party chief).

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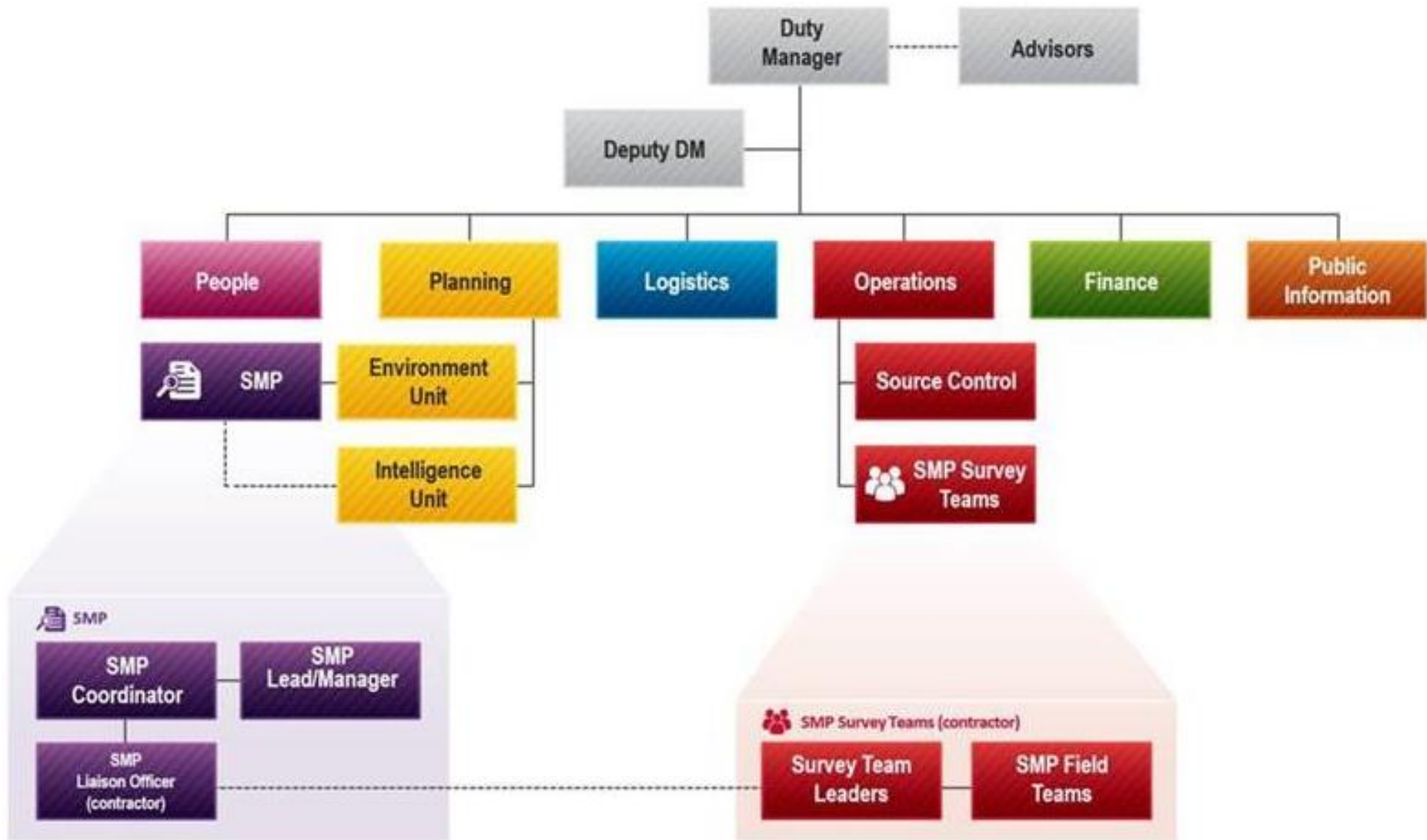


Figure C-1: Woodside Oil Spill Scientific Monitoring Program Delivery Team and Linkage to Corporate Incident Management Team (CIMT) organisational structure

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Table C-2: Oil Spill Environmental Monitoring: Scientific Monitoring Program - Objectives, Activation Triggers and Termination Criteria

Scientific monitoring Program (SMP)	Objectives	Activation Triggers	Termination Criteria
Scientific monitoring program 1 (SM01) Assessment of Hydrocarbons in Marine Waters	<p>SM01 will detect and monitor the presence, extent, persistence and properties of hydrocarbons in marine waters following the spill and the response.</p> <p>The specific objectives of SM01 are as follows:</p> <ul style="list-style-type: none"> Assess and document the extent, severity and persistence of hydrocarbon contamination with reference to observations made during surveillance activities and / or in-water measurements made during operational monitoring; and Provide information that may be used to interpret potential cause and effect drivers for environmental impacts recorded for sensitive receptors monitored under other SMPs. 	<p>SM01 will be initiated in the event of a Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors</p>	<p>SM01 will be terminated when:</p> <ul style="list-style-type: none"> Operational monitoring data relating to observations and / or measurements of hydrocarbons on and in water have been compiled, analysed and reported; and The report provides details of the extent, severity and persistence of hydrocarbons which can be used for analysis of impacts recorded for sensitive receptors monitored under other SMPs. <p>SMP monitoring of sensitive receptor sites:</p> <ul style="list-style-type: none"> Concentrations of hydrocarbons in water samples are below NOPSEMA guidance note (20195) concentrations of 1 g/m² for floating, 10 ppb for entrained and dissolved; and Details of the extent, severity and persistence of hydrocarbons from concentrations recorded in water have been documented at sensitive receptor sites monitored under other SMPs.
Scientific monitoring program 2 (SM02) Assessment of the Presence, Quantity and Character of Hydrocarbons in Marine Sediments	<p>SM02 will detect and monitor the presence, extent, persistence and properties of hydrocarbons in marine sediments following the spill and the response.</p> <p>The specific objectives of SM02 are as follows:</p> <ul style="list-style-type: none"> Determine the extent, severity and persistence of hydrocarbons in marine sediments across selected sites where hydrocarbons were observed or recorded during operational monitoring; and Provide information that may be used to interpret potential cause and effect drivers for environmental impacts recorded for sensitive receptors monitored under other SMPs. 	<p>SM02 will be initiated in the event of a Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors and implemented as follows:</p> <ul style="list-style-type: none"> Response activities have ceased; and Operational monitoring results made during the response phase indicate that shoreline, intertidal or sub-tidal sediments have been exposed to surface, entrained or dissolved hydrocarbons (at or above 0.5 g/m² surface, 5 ppb for entrained/dissolved hydrocarbons and ≥1 g/m² for shoreline accumulation). 	<p>SM02 will be terminated once pre-spill condition is reached and agreed upon as per the SMP termination criteria process and include consideration of:</p> <ul style="list-style-type: none"> Concentrations of hydrocarbons in sediment samples are below ANZECC/ ARMCANZ (20136) sediment quality guideline values (SQGVs) for biological disturbance; and Details of the extent, severity and persistence of hydrocarbons from concentrations recorded in sediments have been documented.
Scientific monitoring program 3 (SM03) Assessment of Impacts and Recovery of Subtidal and Intertidal Benthos	<p>The objectives of SM03 are:</p> <ul style="list-style-type: none"> Characterize the status of intertidal and subtidal benthic habitats and quantify any impacts to functional groups, abundance and density that may be a result of the spill; and Determine the impact of the hydrocarbon spill and subsequent recovery (including impacts associated with the implementation of response options). <p>Categories of intertidal and subtidal habitats that may be monitored include:</p> <ul style="list-style-type: none"> Coral reefs Seagrass Macro-algae Filter-feeders 	<p>SM03 will be activated in the event of a Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors and implemented as follows:</p> <ul style="list-style-type: none"> As part of a pre-emptive assessment of PBAs of receptor locations identified by time to hydrocarbon contact >10 days, to target receptors and sites where it is possible to acquire pre-hydrocarbon contact baseline; and Operational monitoring identified shoreline potential contact of hydrocarbons (at or above 0.5 g/m² surface, 5 ppb for entrained/dissolved hydrocarbons and ≥1 g/m² for shoreline accumulation) for subtidal and intertidal benthic habitat. 	<p>SM03 will be terminated once pre-spill condition is reached and agreed upon as per the SMP termination criteria process and include consideration of:</p> <ul style="list-style-type: none"> Overall impacts to benthic habitats from hydrocarbon exposure have been quantified. Recovery of impacted benthic habitats has been evaluated. Agreement with relevant persons/ organisations and regulators based on the nature and scale of the hydrocarbon spill impacts and/or that observed impacts can no longer be attributed to the spill.

⁵ NOPSEMA (2019) Bulletin #1 – Oil spill modelling – April 2019, <https://www.nopsema.gov.au/assets/Bulletins/A652993.pdf>

⁶ Simpson SL, Batley GB and Chariton AA (2013). Revision of the ANZECC/ARMCANZ Sediment Quality Guidelines. CSIRO and Water Science Report 08/07. Land and Water, pp. 132.

Scientific monitoring Program (SMP)	Objectives	Activation Triggers	Termination Criteria
	SM03 will be supported by sediment contamination records (SM02) and characteristics of the spill derived from OMPs.		
Scientific monitoring program 4 (SM04) Assessment of Impacts and Recovery of Mangroves / Saltmarsh	<p>The objectives of SM04 are:</p> <ul style="list-style-type: none"> Characterize the status of mangroves (and associated salt marsh habitat) at shorelines exposed/contacted by spilled hydrocarbons; Quantify any impacts to species (abundance and density) and mangrove/saltmarsh community structure; and Determine and monitor the impact of the hydrocarbon spill and potential subsequent recovery (including impacts associated with the implementation of response options). <p>SM03 will be supported by sediment sampling undertaken in SM02 and characteristics of the spill derived from OMPs.</p>	<p>SM04 will be activated in the event of a Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors and implemented as follows:</p> <ul style="list-style-type: none"> As part of a pre-emptive assessment of receptor locations identified by time to hydrocarbon contact >10 days; and Operational monitoring identified shoreline potential contact of hydrocarbons (at or above 0.5 g/m² surface, 5 ppb for entrained/dissolved hydrocarbons and ≥1 g/m² for shoreline accumulation) for mangrove/saltmarsh habitat. 	<p>SM04 will be terminated once pre-spill condition is reached and agreed upon as per the SMP termination criteria process and include consideration of:</p> <ul style="list-style-type: none"> Impacts to mangrove and saltmarsh habitat from hydrocarbon exposure have been quantified. Recovery of impacted mangrove/saltmarsh habitat has been evaluated. Agreement with relevant persons/ organisations and regulators based on the nature and scale of the hydrocarbon spill impacts and/or that observed impacts can no longer be attributed to the spill.
Scientific monitoring program 5 (SM05) Assessment of Impacts and Recovery of Seabird and Shorebird Populations	<p>The Objectives of SM05 are to:</p> <ul style="list-style-type: none"> Collate and quantify impacts to avian wildlife from results recorded during OM02 and OM05 (such as mortalities, oiling, rescue and release counts) and undertake a desk-based assessment to infer potential impacts at species population level; and Undertake monitoring to quantify and assess impacts of hydrocarbon exposure to seabirds and shorebird populations at targeted breeding colonies / staging sites / important coastal wetlands where hydrocarbon contact was recorded. 	<p>SM05 will be initiated in the event of a Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors and implemented as follows:</p> <ul style="list-style-type: none"> As part of a pre-emptive assessment of receptor locations identified by time to hydrocarbon contact >10 days; Operational monitoring predicts shoreline contact of hydrocarbons (at or above 0.5 g/m² surface, 5 ppb for entrained/dissolved hydrocarbons and ≥1 g/m² for shoreline accumulation) at important bird colonies / staging sites / important coastal wetland locations; or Records of dead, oiled or injured bird species made during the hydrocarbon spill or response. 	<p>SM05 will be terminated once it is agreed that the receptor has returned to pre-spill condition. The SMP termination criteria process will be followed and include consideration of:</p> <ul style="list-style-type: none"> Impacts to seabird and shorebird populations from hydrocarbon exposure have been quantified. Recovery of impacted seabird and shorebird populations has been evaluated. Agreement with relevant persons/ organisations and regulators based on the nature and scale of the hydrocarbon spill impacts and/or that observed impacts can no longer be attributed to the spill.
Scientific monitoring program 6 (SM06) Assessment of Impacts and Recovery of Nesting Marine Turtle Populations	<p>The objectives of SM06 are to:</p> <ul style="list-style-type: none"> To quantify impacts of hydrocarbon exposure or contact on marine turtle nesting populations (including impacts associated with the implementation of response options); Collate and quantify impacts to adult and hatchling marine turtles from results recorded during OM02 and OM05 (such as mortalities, oiling, rescue and release counts) and undertake a desk-based assessment to infer potential impacts at species population levels (including impacts associated with the implementation of response options); .and Undertake monitoring to quantify and assess impacts of hydrocarbon exposure to nesting marine turtle populations at known rookeries (including impacts associated with the implementation of response options). 	<p>SM06 will be initiated in the event of a Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors and implemented if operational monitoring has:</p> <ul style="list-style-type: none"> As part of a pre-emptive assessment of receptor locations identified by time to hydrocarbon contact >10 days; Predicted shoreline contact of hydrocarbons (at or above 0.5 g/m² surface, 5 ppb for entrained/dissolved hydrocarbons and ≥1 g/m² for shoreline accumulation) at known marine turtle rookery locations; or Records of dead, oiled or injured marine turtle species made during the hydrocarbon spill or response. 	<p>SM06 will be terminated once it is agreed that the receptor has returned to pre-spill condition. The SMP termination criteria process will be followed and include consideration of:</p> <ul style="list-style-type: none"> Impacts to nesting marine turtle populations from hydrocarbon exposure have been quantified. Recovery of impacted nesting marine turtle populations has been evaluated. Agreement with relevant persons/ organisations and regulators based on the nature and scale of the hydrocarbon spill impacts and/or that observed impacts can no longer be attributed to the spill.
Scientific monitoring program 7 (SM07)	The objectives of SM07 are to:	SM07 will be initiated in the event of a Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental	SM07 will be terminated once it is agreed that the receptor has returned to pre-spill condition. The

Scientific monitoring Program (SMP)	Objectives	Activation Triggers	Termination Criteria
Assessment of Impacts to Pinniped Colonies including Haul-out Site Populations	<ul style="list-style-type: none"> Quantify impacts on pinniped colonies and haul-out sites as a result of hydrocarbon exposure/contact. Collate and quantify impacts to pinniped populations from results recorded during OM02 and OM05 (such as mortalities, oiling, rescue and release counts) and undertake a desk-based assessment to infer potential impacts at species population levels. 	<p>receptors and implemented if operational monitoring has:</p> <ul style="list-style-type: none"> As part of a pre-emptive assessment of receptor locations identified by time to hydrocarbon contact >10 days; Identified shoreline contact of hydrocarbons ((at or above 0.5 g/m² surface, ≥5 ppb for entrained/dissolved hydrocarbons and ≥1 g/m² for shoreline accumulation) at known pinniped colony or haul-out site(s) (i.e. most northern site is the Houtman Abrolhos Islands); or Records of dead, oiled or injured pinniped species made during the hydrocarbon spill or response. 	<p>SMP termination criteria process will be followed and include consideration of:</p> <ul style="list-style-type: none"> Impacts to pinniped populations from hydrocarbon exposure have been quantified. Recovery of pinniped populations has been evaluated. Agreement with relevant persons/ organisations and regulators based on the nature and scale of the hydrocarbon spill impacts and/or that observed impacts can no longer be attributed to the spill.
Scientific monitoring program 8 (SM08) Desk-Based Assessment of Impacts to Other Non-Avian Marine Megafauna	<p>The objective of SM08 is to provide a desk-based assessment which collates the results of OM02 and OM05 where observations relate to the mortality, stranding or oiling of mobile marine megafauna species not addressed in SM06 or SM07, including:</p> <ul style="list-style-type: none"> Cetaceans; Dugongs; Whale sharks and other shark and ray populations; Sea snakes; and Crocodiles. <p>The desk-based assessment will include population analysis to infer potential impacts to marine megafauna species populations.</p>	<p>SM08 will be initiated in the event of a Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors and implemented if operational monitoring reports records of dead, oiled or injured non-avian marine megafauna during the spill/ response phase.</p>	<p>SM08 will be terminated when the results of the post-spill monitoring have quantified impacts to non-avian megafauna.</p> <ul style="list-style-type: none"> Agreement with relevant persons/ organisations and regulators based on the nature and scale of the hydrocarbon spill impacts and/or that observed impacts can no longer be attributed to the spill.
Scientific monitoring program 9 (SM09) Assessment of Impacts and Recovery of Marine Fish associated with SM03 habitats	<p>The objectives of SM09 are:</p> <ul style="list-style-type: none"> Characterise the status of resident fish populations associated with habitats monitored in SM03 exposed/contacted by spilled hydrocarbons; Quantify any impacts to species (abundance, richness and density) and resident fish population structure (representative functional trophic groups); and Determine and monitor the impact of the hydrocarbon spill and potential subsequent recovery (including impacts associated with the implementation of response options). 	<p>SM09 will be initiated in the event of a Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors and implemented with SMO3.</p>	<p>SM09 will be undertaken and terminated concurrent with monitoring undertaken for SM03, as per the SMP termination criteria process</p> <ul style="list-style-type: none"> Agreement with relevant persons/ organisations and regulators based on the nature and scale of the hydrocarbon spill impacts and/or that observed impacts can no longer be attributed to the spill.
Scientific monitoring program 10 (SM10) SM10 - Assessment of physiological impacts important fish and shellfish species (fish health and seafood quality/safety) and recovery	<p>SM10 aims to assess any physiological impacts to important commercial fish and shellfish species (assessment of fish health) and if applicable, seafood quality/safety. Monitoring will be designed to sample key commercial fish and shellfish species and analyse tissues to identify fish health indicators and biomarkers, for example:</p> <ul style="list-style-type: none"> Liver Detoxification Enzymes (ethoxyresorufin-O-deethylase (EROD) activity) PAH Biliary Metabolites Oxidative DNA Damage Serum SDH Other physiological parameters, such as condition factor (CF), liver somatic index (LSI), gonado-somatic index (GSI) and gonad histology, total weight, length, condition, parasites, egg development, testes development, abnormalities. 	<p>SM10 will be initiated in the event of a Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors and implemented if operational monitoring (OM01, OM02 and OM05) indicates the following:</p> <ul style="list-style-type: none"> The hydrocarbon spill will or has intersected with active commercial fisheries or aquaculture activities. Commercially targeted finfish and/or shellfish mortality has been observed/recorded. Commercial fishing or aquaculture areas have been exposed to hydrocarbons (≥0.5 g/m² surface and ≥5 ppb for entrained/dissolved hydrocarbons); and 	<p>SM10 will be terminated once it is agreed that the receptor has returned to pre-spill condition. The SMP termination criteria process will be followed and include consideration of:</p> <ul style="list-style-type: none"> Physiological impacts to important commercial fish and shellfish species from hydrocarbon exposure have been quantified. Recovery of important commercial fish and shellfish species from hydrocarbon exposure has been evaluated. Impacts to seafood quality/safety (if applicable) have been assessed and information provided to the relevant persons/ organisations and regulators for the management of any impacted fisheries.

Scientific monitoring Program (SMP)	Objectives	Activation Triggers	Termination Criteria
	<ul style="list-style-type: none"> Seafood tainting may be included (where appropriate) using applicable sensory tests to objectively assess targeted finfish and shellfish species for hydrocarbon contamination. <p>Results will be used to make inferences on the health of commercial fisheries and the potential magnitude of impacts to fishing industries.</p>	<ul style="list-style-type: none"> Taste, odour or appearance of seafood presenting a potential human health risk is observed. 	<ul style="list-style-type: none"> Agreement with relevant persons/ organisations and regulators based on the nature and scale of the hydrocarbon spill impacts and/or that observed impacts can no longer be attributed to the spill.

Activation Triggers and Termination Criteria

Scientific monitoring program Activation

The Woodside oil spill scientific monitoring team will be stood up immediately with the occurrence of a hydrocarbon spill (actual or suspected) Level 2 or 3 hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors via the first strike plan for the petroleum activity programme. The presence of any level of hydrocarbons in the marine environment triggers the activation of the oil spill scientific monitoring program (SMP). This is to ensure the full range of eventualities relating to the environmental, socio-economic and health consequences of the spill are considered in the planning and execution of the SMP. The activation process also takes into consideration the management objectives, species recovery plans, conservation advices and conservations plans for any World Heritage Area (WHA), CMRs, State Marine Parks, other protected area designations (e.g., State nature reserves) and Matters of National Environmental Significance (including listed species under part 3 of the EPBC Act) potentially exposed to hydrocarbons. With the first 24-48 hours of a spill event, such information will be sourced and evaluated as part of the SMP planning process guided by Appendix D (identified receptors vulnerable to hydrocarbon contact), the information presented in the Existing Environment section of the EP as well as other information sources such as the Woodside Baseline Environmental Studies Database.

The starting point for decision-making on what SMPs are activated and spatial extent of monitoring activities will be based on the predictive modelling results (OM01) in the first 24-48 hours until more information is made available from other operational monitoring activities such as aerial surveillance and shoreline surveys. Pre-emptive Baseline Areas (WHA, CMRs and State Marine Parks encompassing key ecological and socio-economic values) are a key focus of the SMP activation decision-making process, particularly, in the early spill event/response phase. As the operational monitoring progresses and further situational awareness information becomes available, it will be possible to understand the nature and scale of the spill. The SMP activation and implementation decision-making will be revisited on a daily basis to account for the updates on spill information. One of the priority focus areas in the early phase of the incident will be to identify and execute pre-emptive SMP assessments at key receptor locations, as required. The SMP activation and implementation decision tree is presented in Figure C-2.

Scientific monitoring Program Termination

The basis of the termination process for the active SMPs (SMPs 1-10) will include quantification of impacts, evaluation of recovery for the receptor at risk and consultation with relevant authorities, persons and organisations. Termination of each SMP will not be considered until the results (as presented in annual SMP reports for the duration of each program) indicate that the target receptor has returned to pre-spill condition.

Once the SMP results indicate impacted receptor(s) have returned to pre-spill condition (as identified by Woodside) a termination decision-making process will be triggered and a number of steps will be undertaken as follows:

- Woodside will engage expert opinion on whether the receptor has returned to pre-spill condition (based on monitoring data). Subject Matter Expert (SMEs) will be engaged (via the Woodside SME scientific monitoring terms of reference to review program outcomes, provide expert advice and recommendations for the duration of each SMP.
- Where expert opinion agrees that the receptor has returned to pre-spill condition, findings will then be presented to the relevant authorities, persons and organisations (as defined by the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulation 11A). Identification of relevant persons/ organisations, planning and engagement will be managed by Woodside's Public Information Functional Support Team (FST) and follow the Stakeholder Management FST. These guidelines outline the FST roles and responsibilities, competencies, communications and planning processes. An assessment of the merits of any objection to termination will be documented in the SMP final report.

- Woodside will decide on termination of SMP based on expert opinion and merits of any relevant persons/ organisations' objections. The final report following termination will include: monitoring results, expert opinion and consultation including merits of any objections.
- Termination of SMPs will also consider applicable management objectives, species recovery plans, conservation advices and conservations plans for any World Heritage Area (WHA), CMRs, State Marine Parks, other protected area designations (e.g., State nature reserves) and Matters of National Environmental Significance (including listed species under part 3 of the EPBC Act).

The SMP termination decision-making process will be applied to each active SMP and an iterative process of decision steps continued until each SMP has been terminated (refer to decision-tree diagram for SMP termination criteria, Figure C-3).

SMP ACTIVATION & IMPLEMENTATION DECISION PROCESS

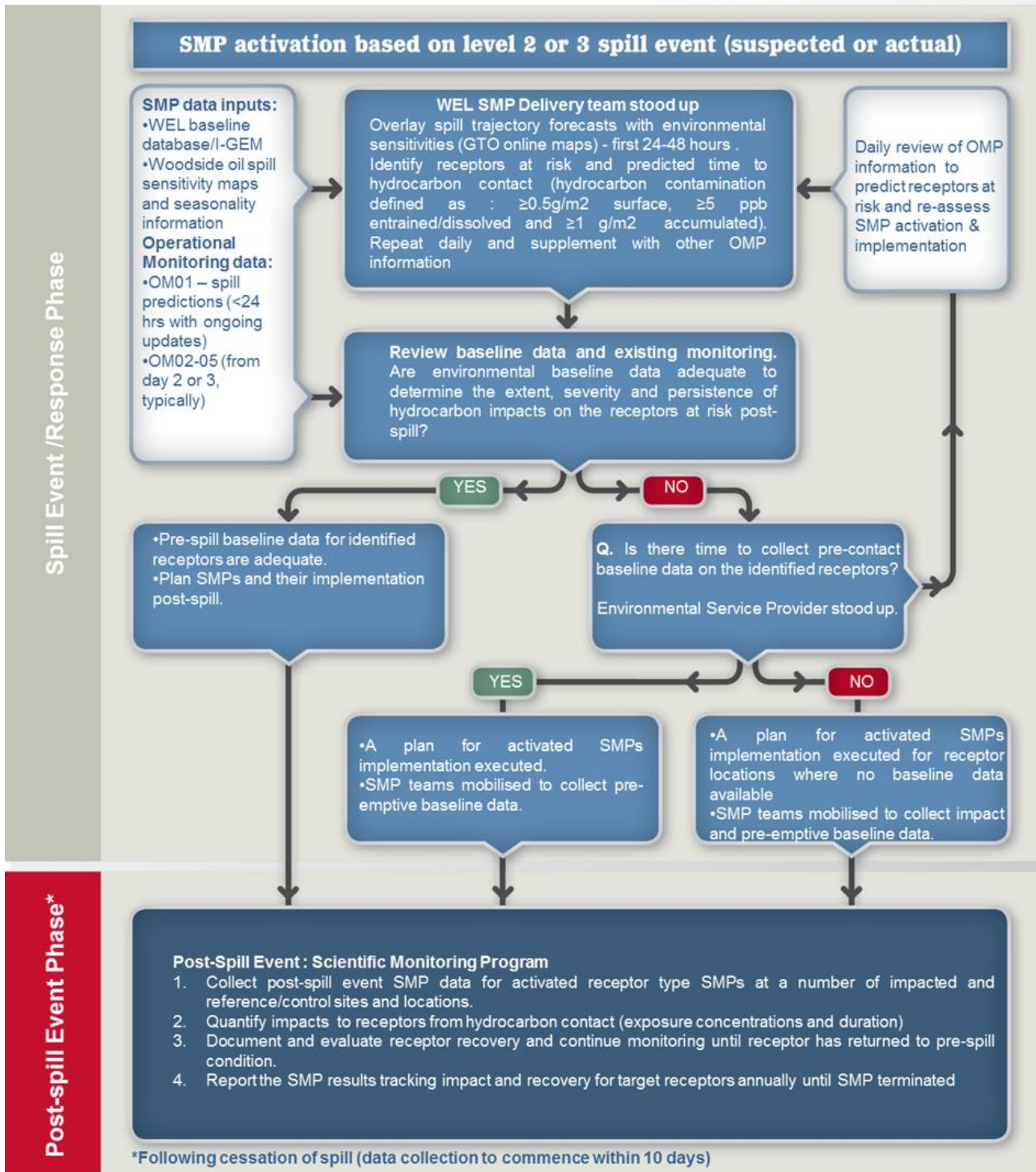


Figure C-2: Activation and Implementation Decision-tree for Oil Spill Environmental Monitoring

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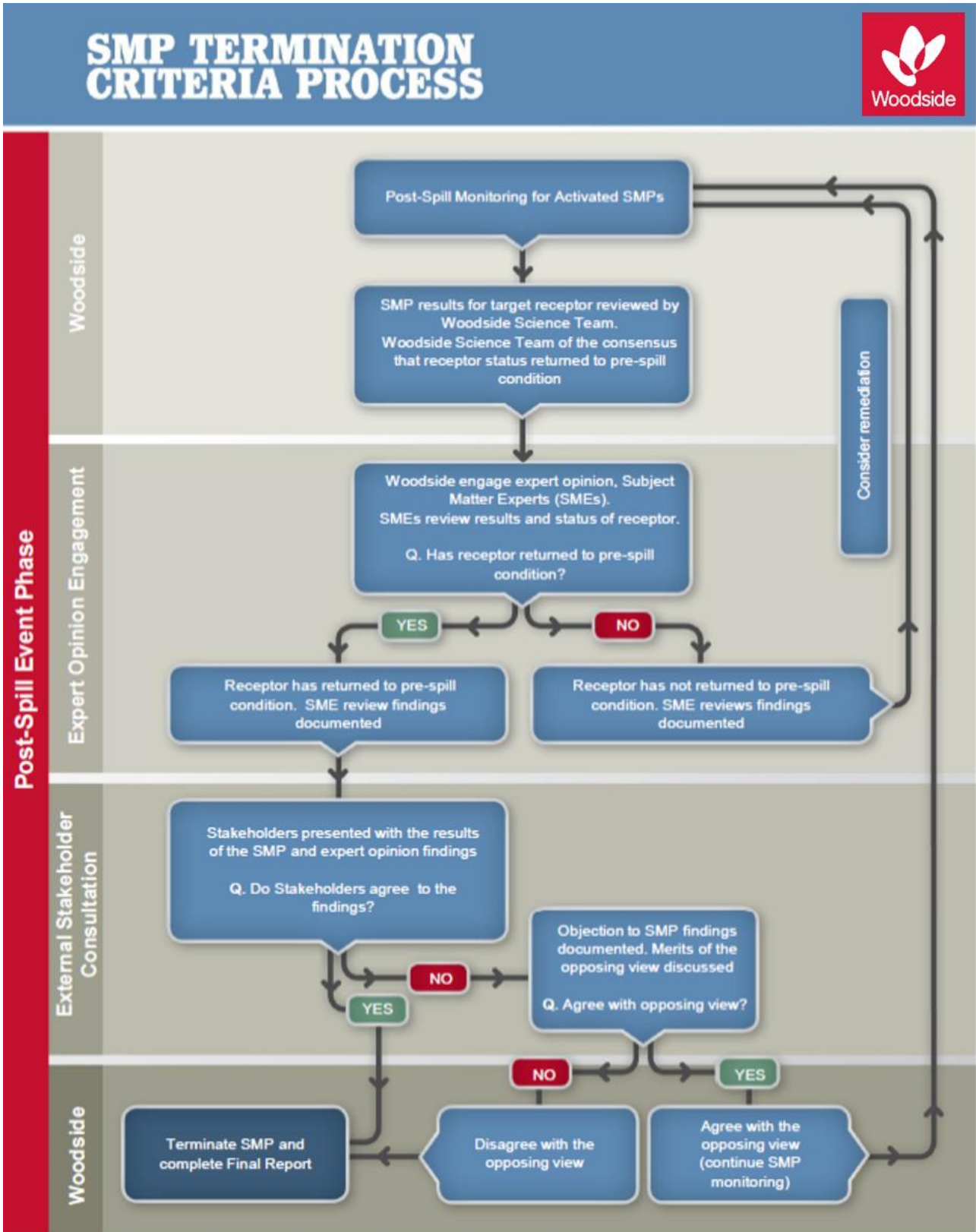


Figure C-3: Termination Criteria Decision-tree for Oil Spill Environmental Monitoring

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Receptors at Risk and Baseline Knowledge

In order to assess the baseline studies available and suitability for oil spill scientific monitoring, Woodside maintains knowledge of environmental baseline studies through the upkeep and use of its Environmental Knowledge Management System.

Woodside's Environmental Knowledge Management System is a centralised platform for scientific information on the existing environment, marine biodiversity, Woodside environmental studies, key environmental impact topics, key literature and web-based resources. The system comprises a number of data directories and an environmental baseline database, as well as folders within the 'Corporate Environment' server space. The environmental baseline database was set up to support Woodside's SMP preparedness and as a SMP resource in the event of an unplanned hydrocarbon spill. The environmental baseline database is subject to updates including annual reviews completed as part of SMP standby contract. This database is accessed pre-PAP to identify Pre-emptive Baseline Areas (PBAs) where hydrocarbon contact is predicted to occur <10 days.

In addition to Woodside's Environmental Knowledge Management System, it is acknowledged that many relevant baseline datasets are held by other organisations (e.g. other oil and gas operators, government agencies, state and federal research institutions and non-governmental organisations). In order to understand the present status of environmental baseline studies a spatial environmental metadata database for Western Australia (Industry-Government Environmental Metadata, I-GEM) was established. IGEM is a collaboration comprising oil and gas operators (including Woodside), government and research agencies and other organisations. IGEM held data were integrated into the Department of Water and Environmental Regulation (WA) Index of Marine Surveys for Assessment (IMSA)⁷ in 2020. The Index of Marine Surveys for Assessments (IMSA) is an online portal for information about marine-based environmental surveys in Western Australia. IMSA is a project of the Department of Water and Environmental Regulation (the department) for the systematic capture and sharing of marine data created as part of an environmental impact assessment (EIA).

In the event of an unplanned hydrocarbon release, Woodside intends to interrogate the information on baseline studies status as held by the various databases (e.g. Woodside Environmental Knowledge Management System, IMSA and other sources of existing baseline data) to identify Pre-emptive Baseline Areas (PBAs), i.e., receptors at risk where hydrocarbon contact is predicted to be >10 days, and baseline data can be collected before hydrocarbon contact.

Reporting

For the scientific monitoring program relevant regulators will be provided with:

- Annual reports summarising the SMPs deployed and active, data collection activities and available findings; and
- Final reports for each SMP summarising the quantitative assessment of environmental impacts and recovery of the receptor once returned to pre-spill condition and termination of the monitoring program.

The reporting requirements of the scientific monitoring program will be specific to the individual SMPs deployed and terms of responsibilities, report templates, schedule, quality assurance/ quality control (QA/QC) and peer-review will be agreed with the contractors engaged to conduct the SMPs. Compliance and auditing mechanisms will be incorporated into the reporting terms.

⁷ <https://biocollect.ala.org.au/imsa#max%3D20%26sort%3DdateCreatedSort>

ANNEX D: MONITORING PROGRAM AND BASELINE STUDIES FOR THE PETROLEUM ACTIVITIES PROGRAM

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Table D-1: Oil Spill Environmental Monitoring – scientific monitoring program scope for the Petroleum Activities Program based on Spill EMBA

Receptors to be Monitored	Receptor Areas - Potential Impact and Reference Scientific Monitoring Sites (marked X)																																																
	Applicable SMP	Kimberley AMP	Agro-Rowley Terrace AMP	Montebello AMP	Dampier AMP	Carnarvon Canyon AMP	Ningaloo AMP	Gascoyne AMP	Shark Bay Open Ocean (including AMP)	Abrilhos AMP	Jurien AMP	Two Rocks AMP	Perth Canyon AMP	Geographe AMP	South-west Corner AMP	Ashmore Reef and AMP	Seringapatam Reef	Scott Reef (North and South)	Mermaid Reef and AMP	Clerke Reef and State Marine Park	Imperieuse Reef and State Marine Park	Rankin Bank	Glomar Shoals	Rowley Shoals (including State Marine Park)	Fantome Shoal	Adele Island	Lacepede Islands	Montebello Islands (including State Marine Park)	Lowendal Islands (including State Nature Reserves)	Barrow Island (including State Nature Reserves, State Marine Park and Marine Management Area)	Muiron Islands (WHA, Marine Management Area)	Pilbara Islands - Southern Island Group (Serrurier, Thevenard and Bessieres Islands - State Nature)	Pilbara Islands - Northern Island Group (Sandy Island Passage Islands - State nature reserves)	Abrilhos Islands	Kimberley Coast	Dampier Peninsula	Northern Pilbara Shoreline	Ningaloo Coast (North/ North West Cape, Middle and South) (WHA, and State Marine Park)	Shark Bay - Open Ocean Coast	Shark Bay (WHA, State Marine Park)	Ngari Capes State Marine Park								
Habitat																																																	
Water Quality	SM01	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
Marine Sediment Quality	SM02	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
Coral Reef	SM03	X		X												X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
Seagrass / Macro-Algae	SM03	X								X						X	X	X									X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Deeper Water Filter Feeders	SM03	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					X																		
Mangroves and Saltmarsh	SM04																										X										X	X	X	X	X	X	X	X	X				
Species																																																	
Sea Birds and Migratory Shorebirds (significant colonies/ staging sites/ coastal wetlands)	SM05	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Marine Turtles (significant nesting beaches)	SM06	X	X	X	X	X	X	X								X	X	X	X	X	X						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Pinnipeds (significant colonies/ haul-out sites)	SM07								X	X	X				X																																	X	
Cetaceans – Migratory Whales	SM08	X	X	X	X	X	X	X	X	X	X	X	X	X	X												X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Oceanic and Coastal Cetaceans	SM08	X	X	X	X	X	X	X	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Dugongs	SM08	X						X								X												X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Sea Snakes	SM08	X		X	X			X	X							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Whale Sharks	SM08			X				X	X									X										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Other Shark and Ray Populations	SM08, SM09	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fish Assemblages	SM09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Socio-economic																																																	
Fisheries – Commercial	SM10		X	X	X	X	X	X	X	X	X											X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Fisheries – Traditional	SM10															X	X	X									X																					X	
Tourism (incl. recreational fishing)	SM10	X		X			X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Receptor areas identified as Pre-emptive Baseline Areas (based on criteria of surface contact and/or entrained hydrocarbon contact ≤10 days (Offshore Australian Marine Parks contacted by hydrocarbons in this timeframe also noted)																																																
	Receptor areas identified as Pre-emptive Baseline Areas in the response phase >10 days (based on criteria of surface contact and/or entrained hydrocarbon contact >10 days)																																																
	Receptor areas that may be identified as impact or reference sites in the event of major hydrocarbon release and would be identified as part of the SMP planning process																																																

Table D-2: Baseline Studies for the SMPs applicable to identified Pre-emptive Baseline Areas for the Petroleum Activities Program

Major Baseline	Proposed Scientific monitoring operational plan and Methodology	Montebello AMP	Barrow, Montebello and Lowendal Islands	Ningaloo Coast and the Muiron Islands
Benthic Habitat (Coral Reef)	SM03 Quantitative assessment using image capture using either diver held camera or towed video. Post analysis into broad groups based on taxonomy and morphology.	Studies: Coral Reefs & Filter Feeders 1. Montebello Marine Park, 2019, Identification and qualitative descriptions of benthic habitat. 2. Montebello Australian Marine Parks – 2019 – Baseline survey on benthic habitats. 3. Pluto Trunkline within Montebello Marine Park – Monitoring marine communities.	Barrow Island: East and West Coast baseline and monitoring for soft sediment, limestone pavement and coral assemblages (Chevron) Barrow, Montebello and Lowendal Islands: 1. Benthic community monitoring as part of DBCA Western Australian Marine Monitoring Program (2015-ongoing). 2. Pilbara Marine Conservation Partnership Seabed biodiversity survey (2013).	1. DBCA LTM Ningaloo Reef program: 1991-ongoing. 2. AIMS/DBCA 2014 Baseline Ningaloo and Muiron Islands Survey – repeat and expansion on the LTM (Co-funded survey: Woodside and AIMS). 3. Pilbara Marine Conservation Partnership. 4. WAMSI LTM Study: Ningaloo Research node: 2009 -10 over the length of Ningaloo reef system (with a focus on coral and fish recruitment). 5. Ningaloo Outlook (CSIRO) - Shallow and Deep Reefs Program (2015-ongoing). 6. Ningaloo Collaboration Cluster: Habitats of the Ningaloo Reef and adjacent coastal areas determined through hyperspectral imagery.
		Methods: 1. ROV Transects 2. Benthic habitat mapping, multibeam acoustic swathing. 3. ROV video.	Barrow Island: Coral habitat – mapping, rapid visual assessment, size-class frequency, photo quadrats – live coral cover and survival, tagged corals – growth and survival and coral recruitment Benthic macro-invertebrate surveys – video belt transects Barrow, Montebello and Lowendal Islands: 1. Fixed long-term monitoring sites. Diver video transect. 2. Towed video, benthic trawl and sled.	1. LTM transects, diver based (video) photo quadrats, specimen collection. 2. LTM sites, transects, diver-based video quadrat. 3. Diver video transects, still photography, video and in situ visual estimates from transects, quadrats, manta-tows, towed video and ROV. 4. Video point intercept transects recorded by towed video or diver hand-held video camera. 5. Video transects. 6. LTM transects, diver based (video) photo quadrat. 7. LTM transects, diver based (video) photo quadrat.
		References and Data: 1. Advisian 2019 2. Keesing 2019 3. McLean et al. 2019	Barrow Island: Chevron Australia (2015a and b) DATAHOLDER: Chevron Australia Barrow, Montebello and Lowendal Islands: 1. WA Department of Biodiversity, Conservation and Attractions (DBCA) DATAHOLDER: DBCA 2. Pitcher et al. 2016 DATAHOLDER: CSIRO	1. DBCA unpublished data. DATAHOLDER: DBCA 2. AIMS 2015. DATAHOLDER: AIMS. 3. Pilbara Marine Conservation Partnership DATAHOLDER: CSIRO 4. Depczynski et al. 2011 DATAHOLDER: AIMS, DBCA and WAMSI. 5. CSIRO 2019 – Ningaloo Outlook Program 6. Murdoch University - Kobryn et al 2011 and Keulen & Langdon 2011.
		References and Data:		
Benthic Habitat (Seagrass and Macro-algae)	SM03 Quantitative assessment using image capture using either diver held camera or towed video. Post analysis into broad groups based on taxonomy and morphology.	Studies: N/A – see Table D-1	Barrow Island: East Barrow Island – Chevron baseline and monitoring	1. Quantitative descriptions of Ningaloo sanctuary zones habitats types including lagoon and offshore areas – Cassata and Collins (2008). 2. CSIRO/BHP Ningaloo Outlook Program. 3. Ningaloo Collaboration Cluster: Habitats of the Ningaloo Reef and adjacent coastal areas determined through hyperspectral imagery. 4. Australian Institute of Marine Science – CReefs: Ningaloo Reef Biodiversity Expeditions (2008-2010).
		Methods:		
			East Barrow - seagrass photo quadrats (30 m transects) during spring/summer and winter periods Macroalgae photo quadrats, visual census and biomass and specimen sampling	1. Video transects to ground truth aerial photographs and satellite imagery. 2. Diver video transects. 3. LTM transects, diver based (video) photo quadrat. 4. LTM transects, diver based (video) photo quadrats, specimen collection.
		References/Data:		

Major Baseline	Proposed Scientific monitoring operational plan and Methodology	Montebello AMP	Barrow, Montebello and Lowendal Islands	Ningaloo Coast and the Muiron Islands
			Barrow Island: Chevron Australia (2015a and b) DATAHOLDER: Chevron Australia	1. Cassata and Collins 2008. DATAHOLDER: Curtin University – Applied Geology. 2. CSIRO – Ningaloo Outlook Program 3. Murdoch University - Kobryn et al 2011 and Keulen and Langdon 2011. 4. AIMS (2010) - http://www.aims.gov.au/creefs
Benthic Habitat (Deeper Water Filter Feeders)	SM03 Quantitative assessment using image capture using towed video. Post analysis into broad groups based on taxonomy and morphology.	Studies:		
		As above (SM03 Coral Reefs)		1. WAMSI 2007 deep-water Ningaloo benthic communities' study, Colquhoun and Heyward (2008). CSIRO/BHP Ningaloo Outlook Program - Deep reef themes 2020
		Methods:		1. Towed video and benthic sled (specimen sampling). Side-scan sonar and AUV transects.
		References and Data:		1. Colquhoun and Heyward (eds) 2008. DATAHOLDER: WAMSI, AIMS. CSIRO – Ningaloo Outlook 2020
Mangroves and Saltmarsh	SM04 Aerial photography and satellite imagery will be used in conjunction with field surveys to map the range and distribution of mangrove communities.	Studies:	N/A – see Table D-1	Barrow Island: East and West Coast baseline and monitoring – mapping (HR aerial imagery) and vegetation surveys
		Methods:		1. Atmospheric correct and land cover classification, NW Cape. 2. Woodside hold Rapid Eye imagery of the Ningaloo Reef and coastal area. 3. Hyperspectral survey (2006) of Ningaloo Reef and coastal area (not yet analysed for Mangroves). 4. North West Cape sensitivity mapping 2012 included Mangrove Bay. Global mangrove distribution as mapped by the USGS and located on UNEP's Ocean Data viewer.
			Barrow – Chevron (2015a and b) – HR mapping (aerial images) and vegetation surveys using belt transects – species composition, estimated total canopy cover, total number of trees, pneumatophore density and canopy density.	Methods: 1. Modular Inversion Program. May 2017 2. Rapid Eye imagery – High resolution satellite imagery from October/November/December 2011 and 2017. 3. Remote sensing – acquisition of HyMap airborne hyperspectral imagery and ground truthing data collection. 4. Reconnaissance surveys of the shorelines of the North West Cape and Muiron Islands. Remote sensing study of global mangrove coverage.
		References/Data:	Barrow Island: Chevron Australia (2015a and b) DATAHOLDER: Chevron Australia	1. EOMAP 2017 DATAHOLDER: Woodside. 2. AAM 2014. Dataholder: Woodside 3. Kobryn et al. 2013. DATAHOLDER: Murdoch University, AIMS; Woodside. 4. Joint Carnarvon Basin Operators, 2012. DATAHOLDER: Woodside and Apache Energy Ltd. http://data.unep-wcmc.org/
Seabirds	SM05	Studies:		

Major Baseline	Proposed Scientific monitoring operational plan and Methodology	Montebello AMP	Barrow, Montebello and Lowendal Islands	Ningaloo Coast and the Muiron Islands
	Visual counts of breeding seabirds, nest counts, intertidal bird counts at high tide	N/A – see Table D-1	<p>Barrow Island:</p> <p>Barrow Island Seabird Monitoring Program (Chevron)</p> <p>Barrow, Montebello and Lowendal Islands:</p> <ol style="list-style-type: none"> 1. Johnston et al (2013) general inventory and distribution for the Pilbara region (WA Museum) 2. Santos – Integrated Shearwater Monitoring Program (1994-2016) 3. Santos – monitoring of seabird breeding colonies throughout the Lowendal Group of Islands. 	<ol style="list-style-type: none"> 1. LTM Study of marine and shoreline birds: 1970-2011. 2. LTM of shorebirds within the Ningaloo coastline (Shorebirds 2020). 3. Exmouth Sub-basin Marine Avifauna Monitoring Program (Quadrant Energy/Santos). 4. Seabird and Shorebird baseline studies, Ningaloo Region – Report on January 2018 bird surveys. 5. Wedge-tailed shearwater foraging behaviour in the Exmouth Region – Final Report
		Methods:	<p>Barrow Island – 2008-ongoing annual surveys: abundance, nest density, presence/absence of egg or chick/fledgling</p> <p>Barrow, Montebello and Lowendal Islands:</p> <ol style="list-style-type: none"> 1. Desktop review (WA Museum) 2. Nest burrow density, presence/absence of eggs or chicks in burrows 3. The distribution and abundance of other nesting seabirds within the Lowendal Island group, including up to 45 islands and islets 	<ol style="list-style-type: none"> 1. Counts of nesting areas, counts of intertidal zone during high tide. 2. The Shorebirds 2020 database comprises the most complete shorebird count data available in Australia. The data have been collected by volunteer counters and BirdLife Australia staff for approximately 150 roosting and feeding sites, mainly in coastal Australia. The data go back as far as 1981 for key areas. 3. The Exmouth Sub-basin Marine Avifauna Monitoring Program undertook a detailed assessment of seabird and shorebird use in the Exmouth Sub-basin. Four aerial surveys and four island surveys were conducted between February 2013 and January 2015 for this Program, inclusive of the mainland coasts, of shore islands and a 2,500 km² area of ocean adjacent to the Exmouth Sub-basin. 4. Shorebird counts, Shearwater Burrow Density. 5. Telemetry (GPS & Satellite).
		References and Data:	<p>Barrow – Chevron (2015c)</p> <p>DATAHOLDER: Chevron Australia</p> <p>Barrow, Montebello and Lowendal Islands:</p> <ol style="list-style-type: none"> 1. Johnston et al (2013) DATAHOLDER: (WA Museum) 2. Santos DATAHOLDER: Santos 3. Surman and Nicholson (2012) DATAHOLDER: Santos 	<ol style="list-style-type: none"> 1. Johnstone et al. 2013. 2. BirdLife Australia 3. Surman & Nicholson 2015. 4. BirdLife Australia: 5. Cannel et al. 2019 <p>DATAHOLDER: Woodside and BirdLife Australia</p> <p>DATAHOLDER: UWA and BirdLife Australia</p>
Turtles	SM06 Beach surveys (recording species, nest counts, false crawls)	Studies: N/A – see Table D-1	<p>Barrow Island:</p> <p>Chevron Australia: long term monitoring programs for flatback turtles</p> <p>Barrow, Montebello and Lowendal Islands:</p> <ol style="list-style-type: none"> 1. Marine turtle monitoring as part of DBCA long-term turtle monitoring program (ongoing). 2. LTM Study of Green, Flatback, Hawksbill turtles on beaches within the Barrow, Lowendal and Montebello Island Complex. 3. Santos 2013 turtle nesting survey on the Lowendal islands. 4. Varanus Island Turtle monitoring program (2005 – present). <p>North West Shelf Flatback Conservation Program – conserve North West Shelf stock – scope covers all summer nesting flatback turtles - https://flatbacks.dbca.wa.gov.au/about</p>	<ol style="list-style-type: none"> 1. Exmouth Islands Turtle Monitoring Program. 2. Ningaloo Turtle Program 3. Turtle activity and nesting on the Muiron Islands and Ningaloo Coast (2018). 4. Spatial and temporal use of inter-nesting habitat by sea turtles along the Muiron Islands and Ningaloo Coast – 2018-2019
		Methods:		

Major Baseline	Proposed Scientific monitoring operational plan and Methodology	Montebello AMP	Barrow, Montebello and Lowendal Islands	Ningaloo Coast and the Muiron Islands
			<p>Barrow Island – Chevron Australia: 2005 -ongoing annual surveys, flatback turtles – nesting success, track counts and satellite tracking, hatchling survival and dispersal.</p> <p>Barrow, Montebello and Lowendal Islands:</p> <ol style="list-style-type: none"> 1. Nesting demographics 2. Nesting demographics 3. Tagging and nest counts 4. Tagging and nest counts at Varanus, Beacon, Bridled, Abutilon and Parakeelya islands. <p>North West Shelf Flatback Conservation Program - https://flatbacks.dbca.wa.gov.au/program-activities</p>	<ol style="list-style-type: none"> 1. Astron (on behalf of Santos) to address a gap in the knowledge of turtle numbers at key locations (offshore islands within the region) that are not currently part of an existing monitoring programs (e.g. the NTP). Field surveys were conducted in October 2013 and January 2014. Surveys were conducted on 12 islands, with each island surveyed once (with the exception of Beach 8 at North Muiron Island) and all tracks counted. 2. Long term trends in marine turtle populations, beach surveys, track counts, best location, mortality counts. 3. On-beach monitoring and aerial surveys. 4. Tagging (satellite transmitter), analysis of interesting, migration and foraging grounds movements and behaviour.
		References/Data:		
			<p>Barrow Island – Chevron (2015c)</p> <p>DATAHOLDER: Chevron Australia</p> <p>Barrow, Montebello and Lowendal Islands:</p> <ol style="list-style-type: none"> 1. DBCA 2. Pendoley 2005. AMOSC/DBCA (DPaW) 2014. 3. Santos (2014) DATAHOLDER: Santos 4. Santos (2005-prsésent) DATAHOLDER: Santos <p>North West Shelf Flatback Conservation Program - https://flatbacks.dbca.wa.gov.au/program-activities</p>	<ol style="list-style-type: none"> 1. Santos – Report. 2. NTP Annual Reports <p>DATAHOLDERS: DBCA. Reports available at http://www.ningalooturtles.org.au/media_reports.html</p> <ol style="list-style-type: none"> 3. Rob et al. 2019 <p>DATAHOLDER: DBCA</p> <ol style="list-style-type: none"> 4. Tucker et al. 2019 <p>DATAHOLDER: DBCA</p>
Fish	SM09 Baited Remote Underwater Video Stations (BRUVS),	Studies:		
			<p>Barrow Island:</p> <p>Chevron: East and West Coast intertidal and subtidal baseline and monitoring</p> <p>Barrow, Montebello and Lowendal Islands:</p> <ol style="list-style-type: none"> 1. Pilbara Marine Conservation Partnership Stereo BRUVS drops in shallow water (~10m) from Exmouth to Barrow Islands in 2015. 2. Finfish monitoring as part of DBCAs Western Australian Marine Monitoring Program (2015-ongoing). 	<ol style="list-style-type: none"> 1. AIMS/DBCA 2014 Baseline Ningaloo Survey – repeat and expansion on the LTM (Co-funded survey: Woodside and AIMS). 2. Demersal fish populations – baseline assessment (AIMS/WAMSI). 3. DBCA study measured Species Richness, Community Composition, and Target Biomass, through UVC. BRUVS studies determining max N, Species Richness, and Biomass. 4. Pilbara Marine Conservation Partnership Stereo BRUVS in shallow water (~10m) in 2014 in northern region of the Ningaloo Marine Park, in shallow water (~10m) inside the lagoonal reef of the Ningaloo Marine Park in 2016, in deep water (~40m) across the length of the Ningaloo Marine Park in 2015, in shallow water outside of Ningaloo Reef from Waroora to Jurabi in 2015 and offshore of the Muiron Islands in 2015. 5. Elasmobranch faunal composition of Ningaloo Marine Park. 6. Juvenile fish recruitment surveys at Ningaloo reef. 7. Demersal fish assemblage sampling method comparison 8. Ningaloo Outlook (CSIRO) - Shallow and Deep Reefs Program
		Methods:		
		<ol style="list-style-type: none"> 1. Semi V Wing trawl net or an epibenthic sled. 2. ROV Video. 	<p>Barrow Island – Chevron (2015a and b) – demersal fish: stereo BRUVS (subtidal habitats) and netting combination for mangrove habitat</p> <p>Barrow, Montebello and Lowendal Islands:</p> <ol style="list-style-type: none"> 1. Stereo BRUVS. 2. Diver underwater visual surveys (UVC). 	<ol style="list-style-type: none"> 1. UVC surveys. 2. BRUVS Study with 304 video samples at three specific depth ranges (1-10 m, 10-30 m and 30-110m). 3. UVC surveys. 4. Stereo BRUVS 5. Snorkel and Scuba surveys. 5. Underwater visual census. 6. Diver operated video. 7. Diver UVC. 8. Diver UVC, stereo BRUVs
		References/Data:		

Major Baseline	Proposed Scientific monitoring operational plan and Methodology	Montebello AMP	Barrow, Montebello and Lowendal Islands	Ningaloo Coast and the Muiron Islands
		1. Keesing 2019. 2. McLean et al. 2019.	Barrow Island – Chevron Australia (2015a and b) DATAHOLDER: Chevron Barrow, Montebello and Lowendal Islands: 1. Unpublished report CSIRO DATAHOLDER: CSIRO, CSIRO Data centre (██████████) 2. DBCA	1. AIMS 2014. DATAHOLDER: AIMS/Woodside. 2. Fitzpatrick et al. 2012. DATAHOLDERS: WAMSI, AIMS. 3. DBCA unpublished data. DATAHOLDER: DBCA/AIMS. 4. CSIRO Data DATAHOLDER: CSIRO Data Centre (██████████). 5. Stevens, J.D., P.R., White, W.T., McAuley, R.B., Meekan, M.G. 2009. 6. WAMSI unpublished data DATAHOLDER: AIMS (██████████). 7. DATAHOLDER: WAMSI 8. CSIRO – Ningaloo Outlook 2020.

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ANNEX E: TACTICAL RESPONSE PLANS

TACTICAL RESPONSE PLANS

Exmouth

Mangrove Bay

Turquoise Bay

Yardie Creek

Muiron Islands

Jurabi to Lighthouse Beaches Exmouth

Ningaloo Reef – Refer to Mangrove/ Turquoise Bay and Yardie Creek

Exmouth Gulf

Shark Bay Area 1: Carnarvon to Wooramel

Shark Bay Area 2: Wooramel to Petite Point

Shark Bay Area 3: Petite Point to Dubaut Point

Shark Bay Area 4: Dubaut Point to Herald Bight

Shark Bay Area 5: Herald Bight to Eagle Bluff

Shark Bay Area 6: Eagle Bluff to Useless Loop

Shark Bay Area 7: Useless Loop to Cape Bellefin

Shark Bay Area 8: Cape Bellefin to Steep Point

Shark Bay Area 9: Western Shores of Edel Land

Shark Bay Area 10: Dirk Hartog Island

Shark Bay Area 11: Bernier and Dorre Islands

Abrohlos Islands: Pelseart Group

Abrohlos Islands: Wallabi Group

Abrohlos Islands: Easter Group

Dampier

Rankin Bank & Glomar Shoals

Barrow and Lowendal Islands

Pilbara Islands – Southern Island Group

Montebello Island – Stephenson Channel Nth TRP

Montebello Island – Champagne Bay and Chippendale channel TRP

Montebello Island – Claret Bay TRP

Montebello Island – Hermite/Delta Island Channel TRP

Montebello Island – Hock Bay TRP

Montebello Island – North and Kelvin Channel TRP

Montebello Island – Sherry Lagoon Entrance TRP

Withnell Bay

Holden Bay

King Bay

No Name Bay / No Name Beach

Enderby Island – Dampier

Rosemary Island – Dampier

Legendre Island – Dampier

Karratha Gas Plant

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KGP to Withnell Creek
KGP to Northern Shore
KGP Fire Pond & Estuary
KGP to No Name Creek
Broome
Sahul Shelf Submerged Banks and Shoals
Clerke Reef (Rowley Shoals)
Imperieuse Island (Rowley Shoals)
Mermaid Reef (Rowley Shoals)
Scott Reef
Oiled Wildlife Response
Exmouth
Dampier region
Shark Bay

APPENDIX I FIRST STRIKE PLAN

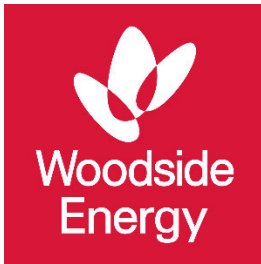
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Uncontrolled when printed. Refer to electronic version for most up to date information.



Macedon Operations (Cwth) – Oil Pollution First Strike Plan

Corporate HSE

Hydrocarbon Spill Preparedness

February 2024

Revision 0a

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CONTROL AGENCIES AND INCIDENT CONTROLLERS

Source	Location	Level	Control Agency	Incident Controller
Spill from facility including subsea infrastructure Note: pipe laying and accommodation vessels are considered a "facility" under Australian regulations	Commonwealth waters	1	Woodside	Person In Charge (PIC) with support from Onshore Team Leader (OTL)
		2/3	Woodside	Corporate Incident Management Team (CIMT) Incident Commander (IC)
	State waters	1	Woodside	CIMT IC
		2/3	Department of Transport (DoT)	DoT Incident Controller
	Within port limits	1	Woodside	CIMT IC
		2/3	DoT	DoT Incident Controller
Spill from vessel Note: SOPEP should be implemented in conjunction with this document	Commonwealth waters	1	Australian Marine Safety Authority (AMSA)	Vessel Master
		2/3	AMSA	AMSA (with response assistance from Woodside)
	State waters	1	DoT	DoT Incident Controller
		2/3	DoT	DoT Incident Controller
	Within port limits	1	Port Authority	Port Harbour Master
		2/3	Port Authority/ DoT	Port Harbour Master/ DoT Incident Controller

SPILLS IN STATE WATERS

As detailed in the table above, in the event of a hydrocarbon spill (hereafter 'spill') where Woodside Energy Ltd ('Woodside') is the responsible party and the spill may impact State waters and shorelines, Woodside (or the Vessel Master) will commence the initial response actions and notify the Western Australian Department of Transport (DoT).

Initially Woodside will be required to make available an appropriate number of suitably qualified persons to work in the DoT IMT ([APPENDIX F – Woodside Liaison Officer Resources to DoT](#)). DoT role as the Controlling Agency in State waters does not negate the requirement for Woodside to have appropriate plans and resources in place to adequately respond to a marine hydrocarbon spill incident in State Waters or to commence the initial response actions to a spill prior to DoT establishing incident control in line with DoT *Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements* (July 2020). Cost recovery arrangements for offshore marine pollution incidents (MOP) are in accordance with Section 9 of the Guidance Note:

https://www.transport.wa.gov.au/mediaFiles/marine/MAC_P_Westplan_MOP_OffshorePetroleumIndGuidance.pdf

Woodside's Incident Management Structure for a hydrocarbon spill, including Woodside Liaison Officer's command structure within DoT can be seen at [APPENDIX E – Woodside Incident Management Structure](#).

The coordination structure for a concurrent hydrocarbon spill in both Commonwealth and State waters/ shorelines is shown in [APPENDIX D – Coordination structure for a concurrent hydrocarbon spill in both Commonwealth and State waters/ shorelines](#).

RESPONSE PROCESS OVERVIEW

For guidance on credible scenarios and hydrocarbon characteristics, refer to APPENDIX A								
ALL INCIDENTS	Notify the Woodside Communication Centre (WCC) on: [REDACTED]							
	Incident Controller or delegate to make relevant notifications in Table 1-1 of this Oil Pollution First Strike Plan.							
LEVEL 1	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #0070C0; color: white;">FACILITY INCIDENT</th> <th style="background-color: #C00000; color: white;">VESSEL INCIDENT</th> </tr> </thead> <tbody> <tr> <td style="background-color: #D9E1F2;">Coordinate pre-identified tactics in Table 2-1 of this Oil Pollution First Strike Plan. Remember to download each Operational Plan.</td> <td style="background-color: #F4CCCC;">Notify AMSA and coordinate pre-identified tactics in Table 2-1 of this Oil Pollution First Strike Plan Remember to download each Operational Plan.</td> </tr> </tbody> </table>	FACILITY INCIDENT	VESSEL INCIDENT	Coordinate pre-identified tactics in Table 2-1 of this Oil Pollution First Strike Plan. Remember to download each Operational Plan.	Notify AMSA and coordinate pre-identified tactics in Table 2-1 of this Oil Pollution First Strike Plan Remember to download each Operational Plan.			
	FACILITY INCIDENT	VESSEL INCIDENT						
	Coordinate pre-identified tactics in Table 2-1 of this Oil Pollution First Strike Plan. Remember to download each Operational Plan.	Notify AMSA and coordinate pre-identified tactics in Table 2-1 of this Oil Pollution First Strike Plan Remember to download each Operational Plan.						
If the spill escalates such that the site cannot manage the incident, inform the WCC on: [REDACTED] and escalate to a level 2/3 incident.								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #0070C0; color: white;">FACILITY INCIDENT</th> <th style="background-color: #C00000; color: white;">VESSEL INCIDENT</th> </tr> </thead> <tbody> <tr> <td style="background-color: #D9E1F2;">Handover control to CIMT and notify DoT.</td> <td style="background-color: #F4CCCC;">Handover control to AMSA and stand up CIMT to assist.</td> </tr> <tr> <td style="background-color: #D9E1F2;">Commence quick revalidation of the recommended strategies on Table 2-1 taking into consideration seasonal sensitivities and current situational awareness. Commence validated strategies.</td> <td style="background-color: #F4CCCC;">If requested by AMSA: Commence quick revalidation of the recommended strategies on Table 2-1 taking into consideration seasonal sensitivities and current situational awareness. Commence validated strategies.</td> </tr> <tr> <td style="background-color: #D9E1F2;">Create an Incident Action Plan (IAP) for all ongoing operational periods. The content of the IAP should reflect the selected response strategies based on current situational awareness. For the full detailed pre-operational Net Environmental Benefit Analysis (NEBA) see the OSPRMA Appendix A</td> <td style="background-color: #F4CCCC;">If requested by AMSA: Create an IAP for all ongoing operational periods. The content of the IAP should reflect the selected response strategies based on current situational awareness. For the full detailed pre-operational NEBA see the OSPRMA Appendix A</td> </tr> </tbody> </table>	FACILITY INCIDENT	VESSEL INCIDENT	Handover control to CIMT and notify DoT.	Handover control to AMSA and stand up CIMT to assist.	Commence quick revalidation of the recommended strategies on Table 2-1 taking into consideration seasonal sensitivities and current situational awareness. Commence validated strategies.	If requested by AMSA: Commence quick revalidation of the recommended strategies on Table 2-1 taking into consideration seasonal sensitivities and current situational awareness. Commence validated strategies.	Create an Incident Action Plan (IAP) for all ongoing operational periods. The content of the IAP should reflect the selected response strategies based on current situational awareness. For the full detailed pre-operational Net Environmental Benefit Analysis (NEBA) see the OSPRMA Appendix A	If requested by AMSA: Create an IAP for all ongoing operational periods. The content of the IAP should reflect the selected response strategies based on current situational awareness. For the full detailed pre-operational NEBA see the OSPRMA Appendix A
FACILITY INCIDENT	VESSEL INCIDENT							
Handover control to CIMT and notify DoT.	Handover control to AMSA and stand up CIMT to assist.							
Commence quick revalidation of the recommended strategies on Table 2-1 taking into consideration seasonal sensitivities and current situational awareness. Commence validated strategies.	If requested by AMSA: Commence quick revalidation of the recommended strategies on Table 2-1 taking into consideration seasonal sensitivities and current situational awareness. Commence validated strategies.							
Create an Incident Action Plan (IAP) for all ongoing operational periods. The content of the IAP should reflect the selected response strategies based on current situational awareness. For the full detailed pre-operational Net Environmental Benefit Analysis (NEBA) see the OSPRMA Appendix A	If requested by AMSA: Create an IAP for all ongoing operational periods. The content of the IAP should reflect the selected response strategies based on current situational awareness. For the full detailed pre-operational NEBA see the OSPRMA Appendix A							
LEVEL 2/3								

1. NOTIFICATIONS

The Incident Controller or delegate must ensure the below notifications (Table 1-1) are completed within the designated timeframes.

For spills from a vessel, relevant notifications must be undertaken by a WEL representative.

Table 1-1: Notifications

In the event of an incident between campaign vessels, also activate relevant vessel Emergency Response Plans and/or Bridging Documents

Timing	By	To	Name	Contact	Instruction	Form	Complete? (✓)
NOTIFICATIONS FOR ALL LEVELS OF SPILL							
Immediately	Offshore Installation Manager (OIM) or Vessel Master	Woodside Communication Centre (WCC)	Corporate Incident Management Team Incident Commander (CIMT IC)	██████████ ██████████ ██████████	Verbally notify WCC of event and estimated volume and hydrocarbon type.	Verbal	
Within 2 hours	Woodside Site Rep (WSR), Corporate Incident Management Team CIMT IC or Delegate	National Offshore Petroleum Safety Environmental Management Authority (NOPSEMA ¹)	Incident notification office	██████████	Verbally notify NOPSEMA for spills >80L. Record notification using Initial Verbal Notification Form or equivalent and send to NOPSEMA as soon as practicable (cc to NOPTA and DEMIRS).	████	
Within 3 days	WSR, CIMT IC or Delegate				Provide a written NOPSEMA Incident Report Form as soon as practicable (no later than 3 days after notification) (cc to NOPTA and DEMIRS) NOPSEMA ██████████ NOPTA ██████████ DEMIRS ██████████	████	
As soon as practicable	CIMT IC or Delegate	Woodside	Environment Unit Leader	As per roster	Verbally notify Unit Leader of event and seek advice on relevant performance standards from EP	Verbal	
Within 2 hours of becoming aware of a marine pollution incident (MOP) that occurs in or may impact state waters	CIMT IC or Delegate	WA Department of Transport	DoT Maritime Environmental Emergency Response Unit (MEER) Duty Officer	██████████	Verbally notify DoT MEER Duty Officer that a spill has occurred and, if required, request use of equipment stored in Karratha. Follow up with a written POLREP as soon as practicable following verbal notification. Additionally, DoT to be notified if spill is likely to extend into WA State waters. Request DoT to provide Liaison to WEL IMT.	████	
As soon as practicable	CIMT IC or Delegate	Department of Climate Change, Energy, the Environment and Water (DCCEE) Director of National Parks	Marine Park Compliance Duty Officer	██████████	The Marine Park Compliance Duty Officer 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. This notification should include: <ul style="list-style-type: none"> titleholder details time and location of the incident proposed response arrangements and locations as per the OPEP contact details for the response coordinator confirmation of access to relevant monitoring and evaluation reports when available. 	Verbal	
As soon as practicable if there is potential for oiled wildlife or the spill is expected to contact land or waters managed by WA Department of	CIMT IC or Delegate	WA Department of Biodiversity, Conservation	Duty Officer	██████████	Phone call notification	Verbal	

¹ Notification to NOPSEMA must be from a Woodside Representative.

Biodiversity, Conservation and Attractions		and Attractions (DBCA)					
As soon as practicable	Public Information	Relevant persons/ organisations	To be determined	To be determined	Should it be identified that additional persons such as, but not limited to, commercial fishers and tourism operators may be affected, Woodside would, at the relevant time, engage with these parties as appropriate and in alignment with the Oil Spill Preparedness and Response Mitigation Assessment (OSPRMA) for Macedon Operations (Cwth). Relevant persons/ organisations will be re-assessed throughout the response period.	Verbal initially	
As soon as practicable	Public Information	Relevant cultural authorities	To be determined	To be determined	Should it be identified that additional relevant cultural authorities may be affected, Woodside would, at the relevant time, engage with these parties as appropriate and in alignment with the Oil Spill Preparedness and Response Mitigation Assessment (OSPRMA) for Macedon Operations (Cwth). Relevant cultural authorities will be re-assessed throughout the response period.	Verbal initially	
ADDITIONAL NOTIFICATIONS TO BE MADE ONLY IF SPILL IS FROM A VESSEL							
Without delay as per protection of the Sea Act, part II, section 11(1)	Vessel Master	Australian Maritime Safety Authority (AMSA)	Response Coordination Centre (RCC)	██████████ ██████████	Verbally notify AMSA RCC of the hydrocarbon spill. Follow up with a written Marine Pollution Report (POLREP) as soon as practicable following verbal notification.	██	
ADDITIONAL LEVEL 2/3 NOTIFICATIONS							
As soon as practicable	CIMT IC or Delegate	AMOSC	AMOSC Duty Manager	██████████	Notify AMOSC that a spill has occurred and follow-up with an email from the CIMT IC/ CIMT Deputy IC/ CMT Leader to formally activate AMOSC. Determine what resources are required consistent with the AMOS Plan and detail in a Service Contract that will be sent to Woodside from AMOSC upon activation.	██	
As soon as practicable	CIMT IC or Delegate	Oil Spill Response Limited (OSRL)	OSRL Duty Manager	██████████	Contact OSRL duty manager and request assistance from technical advisor in Perth. Send the completed notification form to OSRL as soon as practicable. For mobilisation of resources, send the Mobilisation Form to OSRL as soon as practicable. The mobilisation form must be signed by a nominated callout authority from Woodside. OSRL can advise the names on the call out authority list, if required.	██ ██	
As soon as practicable if extra personnel are required for incident support	CIMT IC or Delegate	Marine Spill Response Corporation (MSRC)	MSRC Response Manager	██████████ ██████████	Activate the contract with MSRC (in full) for the provision of up to 30 personnel depending on what skills are required. Please note that provision of these personnel from MSRC are on a best endeavours basis and are not guaranteed.	Verbal	

2. RESPONSE TECHNIQUES

Table 2-1: Response techniques

Technique	Spill type		Level	Pre- Identified Tactics	Responsible	ALARP Commitment Summary	Link to Operational Plans for notification numbers and actions
	MDO	Dry gas					
Operational monitoring –tracking buoy (OM02)	Yes	N/A	ALL	If a vessel is on location, consider the need to deploy the oil spill tracking buoy. If no vessel is on location, consider the need to mobilise oil spill tracking buoys from the King Bay Supply Base (KBSB) Stockpile. If a surface sheen is visible from the facility, deploy the satellite tracking buoy within two hours.	Operations	DAY 1: Tracking buoy deployed within 2 hours.	Surveillance and Reconnaissance to Detect Hydrocarbons and Resources at Risk (OM02) of The Operational Monitoring Operational Plan. Deploy tracking buoy in accordance with Link .
Operational monitoring – predictive modelling (OM01)	Yes	N/A	ALL	Undertake initial modelling using the Rapid Assessment Oil Spill Tool and weathering fate analysis using Automated Data Inquiry for Oil Spills (ADIOS) or refer to the hydrocarbon information in Appendix A .	Situation or Environment	DAY 1: Initial modelling within 6 hours using the Rapid Assessment Tool.	Predictive Modelling of Hydrocarbons to Assess Resources at Risk (OM01 of The Operational Monitoring Operational Plan). <i>Planning to download immediately and follow steps</i>
	Yes	N/A	ALL	Send Oil Spill Trajectory Modelling (OSTM) form (Appendix B, Form 7) to RPS Response (██████████).	Situation	DAY 1: Detailed modelling within 4 hours of RPS Response receiving information from Woodside.	
Operational monitoring – aerial surveillance (OM02)	Yes	N/A	ALL	Instruct Aviation Unit Leader to commence aerial observations in daylight hours. Aerial surveillance observer to complete log in Appendix B Form 8 .	Logistics – Aviation	DAY 1: 2 trained aerial observers. 1 aircraft available. Report made available to the CIMT within 2 hours of landing after each sortie.	Surveillance and Reconnaissance to Detect Hydrocarbons and Resources at Risk (OM02 of The Operational Monitoring Operational Plan). <i>Planning to download immediately and follow steps</i>
Operational monitoring – satellite tracking (OM02)	Yes	N/A	ALL	The Situation Unit Leader to action satellite imagery services. This may be obtained via: <ul style="list-style-type: none"> AMOSC Duty Manager: ██████████ OSRL Duty Manager: ██████████ KSAT: ██████████ Others identified by CIMT 	Situation	DAY 1: Service provider will confirm availability of an initial acquisition within 2 hours. Data received to be uploaded into Woodside Common Operating Picture.	
Operational monitoring – monitoring hydrocarbons in water (OM03)	Yes	N/A	ALL	Consider the need to mobilise resources to undertake water quality monitoring (OM03).	Planning or Environment	DAY 3: Water quality assessment access and capability Daily fluorometry reports will be provided to CIMT.	Detecting and Monitoring for the Presence and Properties of Hydrocarbons in the Marine Environment (OM03 of The Operational Monitoring Operational Plan).
Operational monitoring – pre-emptive assessment of receptors at risk (OM04)	Yes	N/A	ALL	Consider the need to mobilise resources to undertake pre-emptive assessment of sensitive receptors at risk (OM04).	Planning or Environment	DAY 2: In agreement with WA DoT, deployment of 2 specialists for each of the Response Protection Areas (RPA) with predicted impacts.	Pre-emptive Assessment of Sensitive Receptors (OM04 of The Operational Monitoring Operational Plan).
Operational monitoring – shoreline assessment (OM05)	Yes	N/A	ALL	Consider the need to mobilise resources to undertake shoreline assessment surveys (OM05).	Planning or Environment	DAY 2: In agreement with WA DoT, deployment of 2 specialists trained in Shoreline Clean-up Assessment Technique (SCAT) for each of the RPAs with predicted impacts.	Shoreline Assessment (OM05 of The Operational Monitoring Operational Plan).
Surface dispersant	No	N/A	N/A	This response strategy is not recommended.			
Containment and recovery	No	N/A	N/A	This response strategy is not recommended.			
Mechanical dispersion	No	N/A	N/A	This response strategy is not recommended.			
In-situ burning	No	N/A	N/A	This response strategy is not recommended.			

Technique	Spill type		Level	Pre- Identified Tactics	Responsible	ALARP Commitment Summary	Link to Operational Plans for notification numbers and actions
	MDO	Dry gas					
Shoreline protection and deflection	Potentially	N/A	ALL	No shoreline contact predicted at response thresholds (> 100 g/m ²). If operational monitoring determines RPAs are at risk of contact, shoreline protection and deflection may be required. Equipment from Woodside, AMOSC and AMSA Western Australian Stockpiles mobilised. Consideration of mobilisation of interstate/international shoreline protection equipment (i.e. OSRL).	Operations and Planning	DAY 1-2: If required, and in liaison with WA DoT (for Level 2/3 incidents), shoreline protection operation mobilised within 48 hours to each identified RPA.	Protection and Deflection Operational Plan <i>Logistics to download immediately and follow steps</i>
Shoreline clean-up	No	N/A	N/A	No shoreline contact predicted at response thresholds (> 100 g/m ²) therefore this response strategy is not recommended.			
Oiled wildlife response	Yes	N/A	ALL	If oiled wildlife is a potential impact, request AMOSC to mobilise containerised oiled wildlife first strike kits and relevant personnel. Refer to relevant Tactical Response Plan for potential wildlife at risk. Mobilise AMOSC Oiled Wildlife Containers. Consider whether additional equipment is required from local suppliers.	Logistics and Planning	Initiate a wildlife first strike response prior to confirmed or imminent wildlife contact as directed by relevant Operational Monitoring techniques (OM01-05) and in liaison with DBCA.	Oiled Wildlife Response Operational Plan
Scientific monitoring (type II)	Yes	N/A	ALL	Notify Woodside science team of spill event.	Environment		Oil Spill Scientific Monitoring Programme – Operational Plan
SOURCE CONTROL TECHNIQUES							
Subsea First Response Toolkit	No	Yes	L2/3	Debris clearance equipment to be mobilised prior to deployment of capping stack.	Source Control	DAY 2: Remotely Operated Vehicle (ROV) on Mobile Offshore Drilling Unit (MODU) ready for deployment within 48 hours subject to risk assessment and approvals, to undertake inspection and/or well intervention. ROV equipment deployed within 7 days. Intervention vessel with minimum requirement of a working class ROV and operator mobilised to with for deployment within 11 days.	Source Control Emergency Response Planning Guideline Activity Source Control Emergency Response Plan
Subsea Dispersant	No	No	N/A	This response strategy is not recommended			
Capping Stack	No	Yes	L2/3	Conventional/vertical capping stack deployment with a heavy lift vessel will be attempted if plume radius is ~25 m and environmental conditions permit (wind speed, wave height, current and plume radius).	Source Control	DAY 1: Identify source control vessel availability within 24 hours. Capping stack on suitable vessel mobilised to site within 16 days.	
Relief Well	No	Yes	L2/3	Relief well drilling will be the main technique employed to control a loss of well containment event.	Source Control	DAY 1: Identify source control vessel availability within 24 hours. MODU mobilised to location within 21 days (local MODU) or 29 days (MODU out of region).	

3. RESPONSE PROTECTION AREAS

Action: Provide relevant Control Agency with applicable Tactical Response Plans for any Response Protection Areas (RPAs) identified during operational monitoring.

Based on hydrocarbon spill modelling results, no sensitive receptors are predicted to be contacted at feasible response thresholds ($>100 \text{ g/m}^2$) for the duration of the spill.

The only receptors predicted to be contacted below response threshold ($\sim 10 \text{ g/m}^2$) are:

- Exmouth, Ningaloo Coast WH, and Ningaloo Marine Park (State)
- Muiron Islands and Marine Management Area (MMA).

Tactical Response plans for these locations can be accessed via the [Oil Spill Portal - Tactical Response Plans](#) and include the details of potential forward operating bases and staging areas.

Oil spill trajectory modelling specific to the spill event will be required to determine the regional sensitive receptors that may be contacted beyond 48 hours of a spill.

Figure 3-1 illustrates the location of regional sensitive receptors in relation to the Macedon Operations (Cwth) Operational Area and identifies priority protection areas.

Consideration should be given to other stakeholders (including mariners) in the vicinity of the spill location. **Table 3-1** indicates the assets within the vicinity of the Macedon Operations (Cwth) Operational Area.

Table 3-1: Assets in the vicinity of the Macedon Operations (Cwth) Operational Area

Asset	Distance and Direction from Operational Area	Operator
Pyrenees Facility (Pyrenees FPSO)	~6 km NW	Woodside Energy Limited
Vincent Development (Ngujima-Yin FPSO)	~16 km NW	Woodside Energy Limited
Van Gogh/ Coniston/ Novara Development (Ningaloo Vision FPSO)	~17 km NW	Santos Limited
Corowa development (installation in Q4 2023)	~33 km NE	KATO Energy

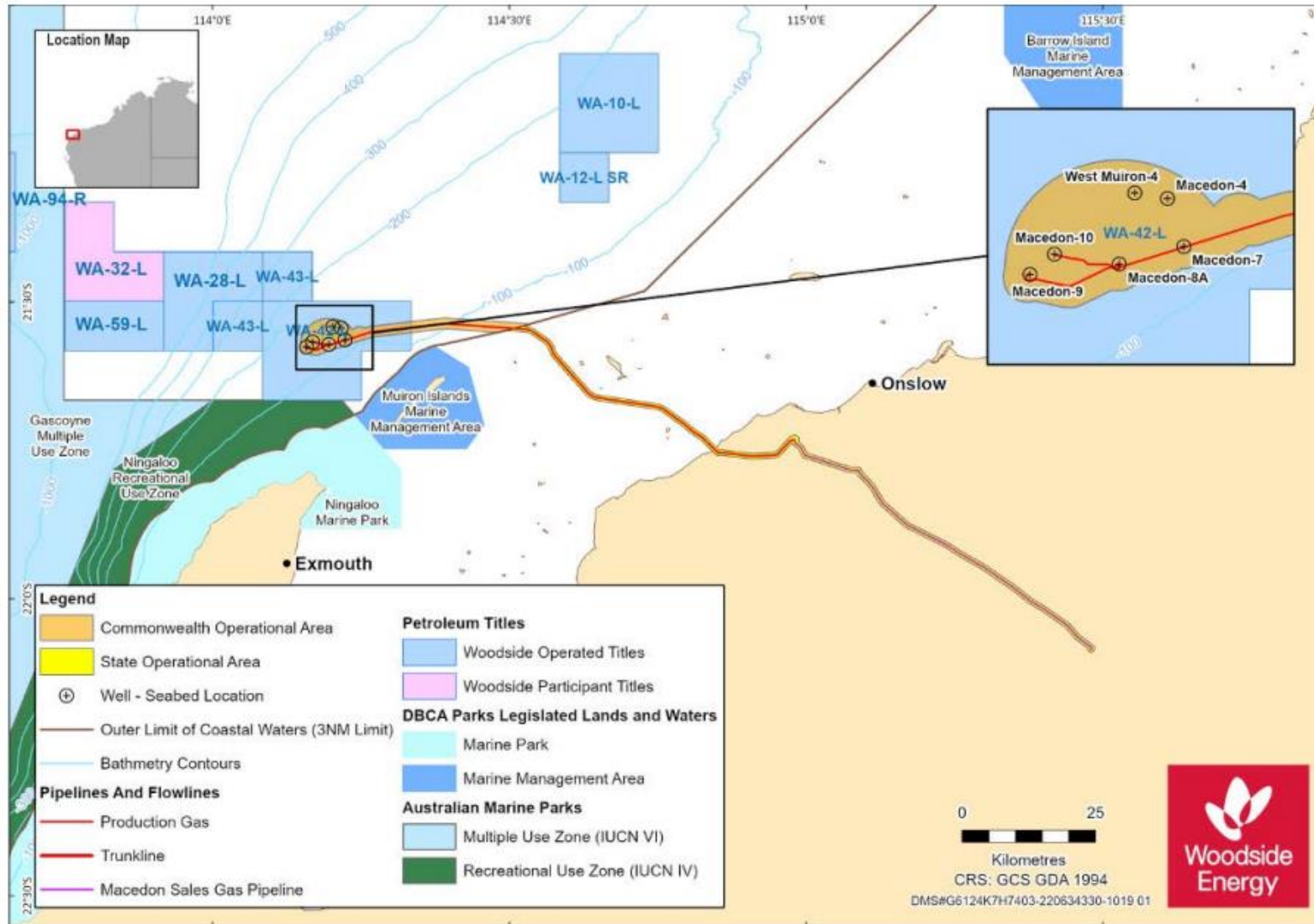


Figure 3-1: Operational area and regional sensitive receptors

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4. DISPERSANT APPLICATION

Dispersant is not considered an appropriate response strategy for this activity as described in the Macedon Operations Environment Plan (Cwth) Appendix D (Woodside's Oil Spill Preparedness and Response Mitigation Assessment).

APPENDIX A – CREDIBLE SPILL SCENARIOS AND HYDROCARBON INFORMATION

Table A - 1: Credible spill scenario and hydrocarbon information

Scenario	Product	Volume	Residue	Weathering rate	
CS-01 (WCCS) <i>Instantaneous surface release of Marine Diesel Oil from a single tank caused by a vessel collision at the Macedon Well Centre</i>	Marine Diesel (MDO)	125 m ³	5% (6.25 m ³)	12 hours (BP < 180 °C)	6%
				24 hours (180 °C < BP < 265 °C)	35%
				Several days (265 °C < BP < 380 °C)	54%
CS-02 <i>Loss of well containment from Macedon-7 well due to loss of Xmas tree and subsurface safety valve ability to emergency close</i>	Dry gas – no liquid hydrocarbon is expected at atmospheric temperatures.	NA – dry gas	NA – dry gas	NA – dry gas	

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APPENDIX B – NOTIFICATION FORMS

Table B - 1: Notification forms

No.	Form Name	Link
1	Record of initial verbal notification to NOPSEMA template	■
2	NOPSEMA Incident Report Form	■
3	Marine Pollution Report (POLREP – AMSA)	■
4	AMOSOC Service Contract	■
5	Marine Pollution Report (POLREP – DoT)	■
6a	OSRL Initial Notification Form	■
6b	OSRL Mobilisation Activation Form	■
7	RPS Response Oil Spill Trajectory Modelling Request	■
8	Aerial Surveillance Observer Log	■
9	Tracking buoy deployment instructions	■

FORM 1 – RECORD OF INITIAL VERBAL NOTIFICATION TO NOPSEMA

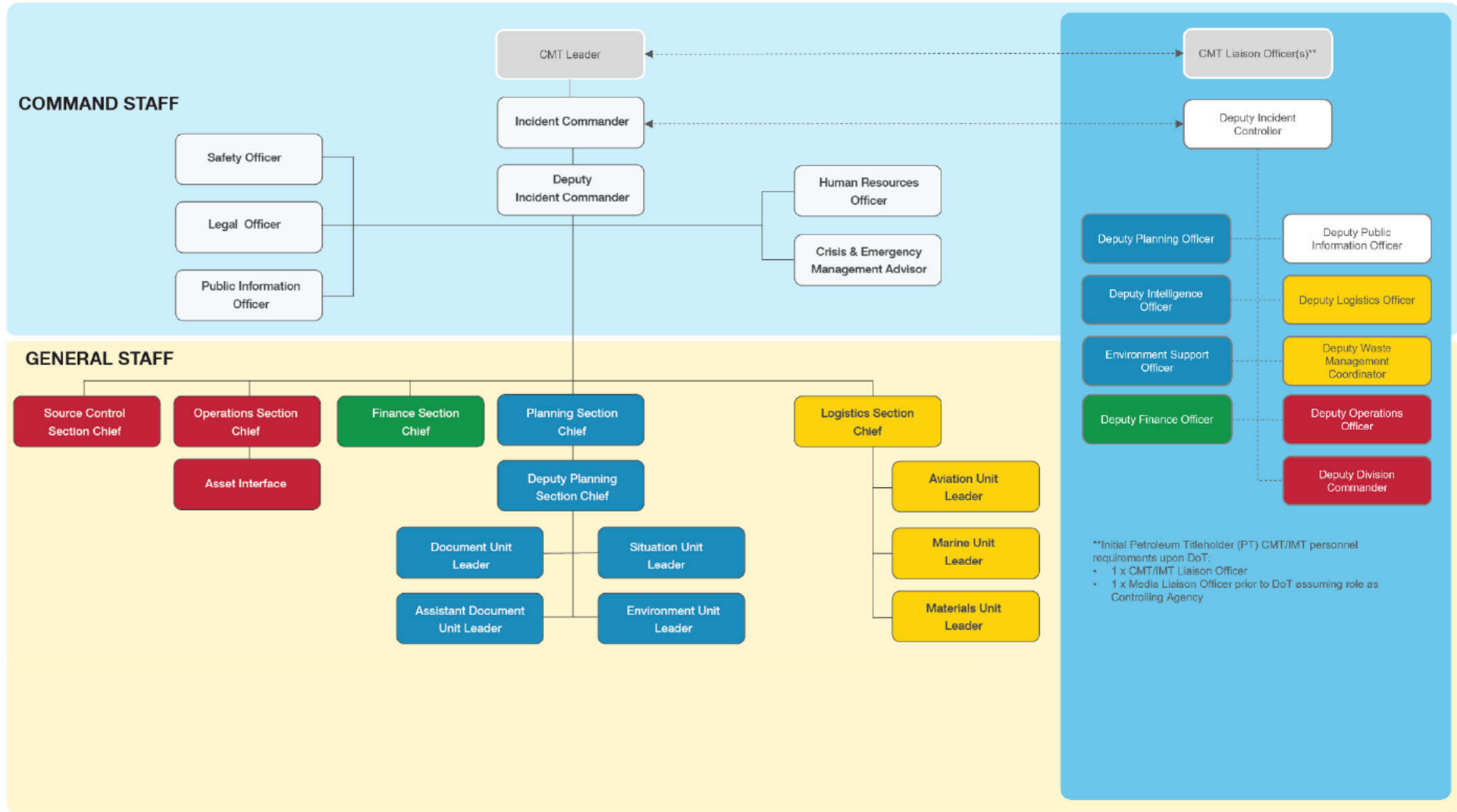
NOPSEMA phone: _____			
Date of call	_____		
Time of call	_____		
Call made by	_____		
Call made to	_____		
Information to be provided to NOPSEMA:			
Date and time of incident/ time caller became aware of incident	_____		
Details of incident	1. Location	_____	
	2. Title	_____	
	3. Source	<input type="checkbox"/> Platform	
		<input type="checkbox"/> Pipeline	
		<input type="checkbox"/> FPSO	
		<input type="checkbox"/> Exploration drilling	
		<input type="checkbox"/> Well	
		<input type="checkbox"/> Other (please specify)	
	4. Hydrocarbon type	_____	
	5. Estimated volume	_____	
6. Has the discharge ceased?	_____		
7. Fire, explosion or collision?	_____		
8. Environment Plan(s)	_____		
9. Other Details	_____		
Actions taken to avoid or mitigate environmental impacts	_____		
Corrective actions taken or proposed to stop, control or remedy the incident	_____		
After the initial call is made to NOPSEMA, please send this record as soon as practicable to:			
NOPSEMA	_____		
NOPTA	_____		
DEMIRS	_____		

APPENDIX C – SPILL ASSESSMENT QUESTIONS

What has happened?		
Date/time		
Spill source		
Spill cause		
Safety situation		
What is it?		
Oil type and name		
Oil properties	Specific gravity	
	Viscosity	
	Pour point	
	Asphaltenes	
	Wax content	
	Boiling point	
Where is it?		
Latitude and longitude		
Distance and bearing		
Affected area	<input type="checkbox"/> Offshore	
	<input type="checkbox"/> Subsea	
	<input type="checkbox"/> Shoreline	
	<input type="checkbox"/> Estuary	
	<input type="checkbox"/> Port	
	<input type="checkbox"/> Harbour	
	<input type="checkbox"/> Inland	
	<input type="checkbox"/> River	
	<input type="checkbox"/> Other (please detail):	
Water depth		
How big is it?		
Area		
Release type	<input type="checkbox"/> Instantaneous	Estimated volume:
	<input type="checkbox"/> Continuous release	Estimated release rate:
Where it is going?		
Metocean conditions		
Currents and tides		
What is in the way?		
Resources at risk		
Time until resource contact		
What's happening to it?		
Weathering processes		
Response actions underway		

APPENDIX E – WOODSIDE INCIDENT MANAGEMENT STRUCTURE

Woodside Incident Management Structure for Hydrocarbon Spill (including Woodside Liaison Officers Command Structure within DoT IMT if required).



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APPENDIX F – WOODSIDE LIAISON OFFICER RESOURCES TO DOT

In the event that DoT is required to establish an IMT, Woodside will make available an appropriate number of appropriately qualified persons to work within the DoT IMT.

It is an expectation that Woodside's nominated CMT Liaison Officer and the Deputy Incident Controller attend the DoT Fremantle ICC as soon as possible after the formal request has been made by the SMPC, and no later than 8am on the day following the request being formally made. For Woodside personnel designated to serve in DoT's Forward Operating Base (FOB), it is expected that they arrive at the FOB no later than 24 hours from the formal request being made by the SMPC.

Area	Role	Woodside personnel ³	Key Duties	#
DoT Maritime Environmental Emergency Coordination Centre (MEECC)	CMT Liaison Officer	CIMT Liaison	<ul style="list-style-type: none"> Provide a direct liaison between the CMT and the MEECC. Facilitate effective communications and coordination between the CIMT Leader and State Marine Pollution Coordinator (SMPC). Offer advice to SMPC on matters pertaining to PT crisis management policies and procedures. 	1
DoT IMT Incident Control	Deputy Incident Controller	Deputy Incident Commander (Deputy IC)	<ul style="list-style-type: none"> Provide a direct liaison between the PT IMT and DoT IMT. Facilitate effective communications and coordination between the PT IC and the DoT IC. Offer advice to the DoT IC on matters pertaining to PT incident response policies and procedures. Offer advice to the Safety Coordinator on matters pertaining to PT safety policies and procedures, particularly as they relate to PT employees or contractors operating under the control of the DoT IMT. 	1
DoT IMT Intelligence	Deputy Intelligence Officer	Situation Unit Leader (Intelligence)	<ul style="list-style-type: none"> As part of the Intelligence Team, assist the Intelligence Officer in the performance of their duties in relation to situation and awareness. Facilitate the provision of relevant modelling and predications from the PT IMT. Assist in the interpretation of modelling and predictions originating from the PT IMT. Facilitate the provision of relevant situation and awareness information originating from the DoT IMT to the PT IMT. Facilitate the provision of relevant mapping from the PT IMT. 	1

³ These positions would be mobilised, in consultation with DoT, to align to the actual spill scenario. The selected roles and/or individual personnel would be subject to continued evaluation to ensure continued 'best fit'. For CIMT roster arrangements, contact the WCC. During a prolonged response, additional personnel may be sourced through internal resourcing and mutual Aid agreements such as the AMOSC Core Group via [REDACTED]

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Area	Role	Woodside personnel ³	Key Duties	#
			<ul style="list-style-type: none"> Assist in the interpretation of mapping originating from the PT IMT. Facilitate the provision of relevant mapping originating from the DoT IMT to the PT IMT. 	
DoT IMT Intelligence – Environment	Environment Support Officer	Deputy Environment Unit Leader	<ul style="list-style-type: none"> As part of the Intelligence Team, assist the Environment Coordinator in the performance of their duties in relation to the provision of environmental support into the planning process. Assist in the interpretation of the PT OPEP and relevant TRP plans. Facilitate in requesting, obtaining and interpreting environmental monitoring data originating from the PT IMT. Facilitate the provision of relevant environmental information and advice originating from the DoT IMT to the PT IMT. 	1
DoT IMT Planning-Plans/Resources	Deputy Planning Officer	Deputy Planning Section Chief	<ul style="list-style-type: none"> As part of the Planning Team, assist the Planning Officer in the performance of their duties in relation to the interpretation of existing response plans and the development of incident action plans and related sub plans. Facilitate the provision of relevant IAP and sub plans from the PT IMT. Assist in the interpretation of the PT OPEP from the PT. Assist in the interpretation of the PT IAP and sub plans from the PT IMT. Facilitate the provision of relevant IAP and sub plans originating from the DoT IMT to the PT IMT. Assist in the interpretation of the PT existing resource plans. Facilitate the provision of relevant components of the resource sub plan originating from the DoT IMT to the PT IMT. <p>(Note this individual must have intimate knowledge of the relevant PT OPEP and planning processes)</p>	1
DoT IMT Public Information-Media/Community Engagement	Deputy Public Information Officer	Deputy Public Information Officer	<ul style="list-style-type: none"> As part of the Public Information Team, provide a direct liaison between the PT Media team and DoT IMT Media team. Facilitate effective communications and coordination between the PT and DoT media teams. Assist in the release of joint media statements and conduct of joint media briefings. Assist in the release of joint information and warnings through the DoT Information and Warnings team. 	1

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Area	Role	Woodside personnel ³	Key Duties	#
			<ul style="list-style-type: none"> Offer advice to the DoT Media Coordinator on matters pertaining to PT media policies and procedures. Facilitate effective communications and coordination between the PT and DoT Community Liaison teams. Assist in the conduct of joint community briefings and events. Offer advice to the DoT Community Liaison Coordinator on matters pertaining to the PT community liaison policies and procedures. Facilitate the effective transfer of relevant information obtained from through the Contact Centre to the PT IMT. 	
DoT IMT Logistics	Deputy Logistic Officer	Deputy Logistics Section Chief	<ul style="list-style-type: none"> As part of the Logistics Team, assist the Logistics Officer in the performance of their duties in relation to the provision of supplies to sustain the response effort. Facilitate the acquisition of appropriate supplies through the PTs existing OSRL, AMOSC and private contract arrangements. Collects Request Forms from DoT to action via PT IMT. <p>(Note this individual must have intimate knowledge of the relevant PT logistics processes and contracts)</p>	1
DoT IMT Finance-Accounts/ Financial Monitoring	Deputy Finance Officer	Deputy Finance Section Chief	<ul style="list-style-type: none"> As part of the Finance Team, assist the Finance Officer in the performance of their duties in relation to the setting up and payment of accounts for those services acquired through the PTs existing OSRL, AMOSC and private contract arrangements. Facilitate the communication of financial monitoring information to the PT to allow them to track the overall cost of the response. Assist the Finance Officer in the tracking of financial commitments through the response, including the supply contracts commissioned directly by DoT and to be charged back to the PT. 	1
DoT IMT Operations	Deputy Operations Officer	Deputy Operations Section Chief	<ul style="list-style-type: none"> As part of the Operations Team, assist the Operations Officer in the performance of their duties in relation to the implementation and management of operational activities undertaken to resolve an incident. Facilitate effective communications and coordination between the PT Operations Section and the DoT Operations Section. Offer advice to the DoT Operations Officer on matters pertaining to PT incident response procedures and requirements. 	1

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Area	Role	Woodside personnel ³	Key Duties	#
			<ul style="list-style-type: none"> Identify efficiencies and assist to resolve potential conflicts around resource allocation and simultaneous operations of PT and DoT response efforts. 	
DoT IMT Operations – Waste Management	Deputy Waste Management Coordinator	Deputy Waste Coordinator (Materials)	<ul style="list-style-type: none"> As part of the Operations Team, assist the Waste Management Coordinator in the performance of their duties in relation to the provision of the management and disposal of waste collected in State waters. Facilitate the disposal of waste through the PT's existing private contract arrangements related to waste management and in line with legislative and regulatory requirements. Collects Request Forms from DoT to action via PT IMT. 	1
DoT FOB Operations Command	Deputy Division Commander	FOB Deputy Incident Commander	<ul style="list-style-type: none"> As part of the Field Operations Team, assist the Division Commander in the performance of their duties in relation to the oversight and coordination of field operational activities undertaken in line with the IMT Operations Section's direction. Provide a direct liaison between the PT FOB and DoT FOB. Facilitate effective communications and coordination between the PT Division Commander and the DoT Division Commander. Offer advice to the DoT Division Commander on matters pertaining to PT incident response policies and procedures. Assist the Safety Coordinator deployed in the FOB in the performance of their duties, particularly as they relate to PT employees or contractors. Offer advice to the Safety Coordinator deployed in the FOB on matters pertaining to PT safety policies and procedures. 	1
Total				11

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APPENDIX G – DOT LIAISON OFFICER RESOURCES TO WOODSIDE

Once DoT activates a State waters/shorelines IMT, DoT will make available the following roles to Woodside.

Area	DoT Liaison Role	Personnel Sourced from:	Key Duties	#
Woodside CIMT	DoT Liaison Officer (prior to DoT assuming Controlling Agency)/ Deputy Incident Controller – State waters (after DoT assumes Controlling Agency)	DoT	<ul style="list-style-type: none"> Facilitate effective communications between DoT's SMPC/ Incident Controller and the Petroleum Titleholder's appointed CMT Leader / Incident Controller. Provide enhanced situational awareness to DoT of the incident and the potential impact on State waters. Assist in the provision of support from DoT to the Petroleum Titleholder PT. Facilitate the provision technical advice from DoT to the Petroleum Titleholder Incident Controller as required. 	1
Woodside CIMT Public Information – Media	DoT Media Liaison Officer	DoT	<ul style="list-style-type: none"> Provide a direct liaison between the PT Media team and DoT IMT Media team. Facilitate effective communications and coordination between the PT and DoT media teams. Assist in the release of joint media statements and conduct of joint media briefings. Assist in the release of joint information and warnings through the DoT Information & Warnings team. Offer advice to the PT Media Coordinator on matters pertaining to DoT and wider Government media policies and procedures. 	1
Total DoT personnel initial requirement to Woodside				2

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